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School of Primary Care, Population Sciences, and Medical Education

Exploring beliefs, attitudes, and behavioural intentions towards long-term antidepressant use in the management of people with depression in primary care: a mixed methods study

by

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Thesis for the degree of Doctor of Philosophy

January 2022

University of Southampton

Abstract

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Over the last two decades, antidepressant prescribing in the UK has increased considerably. The rate of antidepressant prescribing increased from 15.8% to 16.6% between 2015 and 2018, with 7.3 million people prescribed antidepressants in 2017/18, at an annual cost of approximately £266 million. Evidence suggests that the increase in the number of antidepressant prescriptions is due to patients staying on treatment for longer. While between a third to a half of patients may no longer be clinically indicated to continue antidepressant treatment, some are prepared to do so due to a fear of relapse or withdrawal symptoms during the discontinuation process.

This PhD aimed to explore beliefs, attitudes, and behavioural intentions towards long-term antidepressant use in the management of people with depression in primary care. A critical interpretive synthesis found that beliefs and attitudes towards depression and antidepressant use influenced patients' decisions to stop or continue long-term antidepressant treatment. The findings from the synthesis were considered along with existing theoretical models of health behaviour to develop a questionnaire to measure patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant use. A sample of 10 participants took part in cognitive interviews to test the understanding and acceptability of the questionnaire before its use in a mixed methods study.

Two hundred and seventy-seven participants took part in The Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (APPLAUD) Study, and 16 participants took part in the nested qualitative interview study. The findings from the questionnaire and interviews were interpreted together using a complementarity approach.

The findings showed that patients' beliefs and attitudes towards depression and long-term antidepressant use predicted intentions to start to come off antidepressants; however, most participants had little to no intention to stop. The qualitative findings showed that participants' understanding of depression and long-term antidepressant use was multi-factorial and complex. Furthermore, participants rarely attended antidepressant review consultations with their GP, which meant little opportunity for conversations around potential antidepressant discontinuation. As uncertainty is a concept within patients' representations and understanding of the role of antidepressants in managing depression, having more frequent review consultations with the GP

may be crucial in discussing beliefs around the necessity of antidepressants, and in turn, facilitate conversations around safe and gradual antidepressant discontinuation.

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Research Thesis: Declaration of Authorship

Print name: RACHEL VICTORIA DEWAR-HAGGART

Title of thesis: Exploring beliefs, attitudes, and behavioural intentions towards long-term antidepressant use in the management of people with depression in primary care: a mixed methods study

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission.

Signature: Date: 10th January 2022

Acknowledgements

There are many people that I need to thank, as without them, producing this thesis would not have been possible.

First off, to my supervisors: Professor Tony Kendrick, Dr Ingrid Muller, Dr Felicity Bishop, and Dr Adam Geraghty. Thank you for being supportive, encouraging, and always giving me that ‘gentle nudge’ throughout my candidature. Thank you for sharing your expertise and helping me to develop as an academic researcher. This PhD has been the most challenging thing I’ve ever done, but your constant guidance and belief in me helped enormously.

I would like to thank the NIHR School for Primary Care and the Primary Care Research Centre at the University of Southampton for giving me this opportunity. The programme, training, and support has been fantastic, and I am grateful for the opportunity to attend the NIHR Doctoral Training Camp in 2017. Thanks in particular to Professor Hazel Everitt and Judy Chatwin for the many chats and words of encouragement when times were tough. To my PPI Contributor Bryan Palmer, thank you for your support in finding participants for my cognitive interview study, giving invaluable feedback on my qualitative topic guide, and other aspect of my qualitative study. I hope that you have learned as much from me as I have from you, and I look forward to working with you in the future. To all the GP practices that helped send out the many questionnaire packs to eligible patients, thank you. To all the participants that took part in my cognitive interview study, thank you for your honesty in helping me to develop my questionnaire. To all participants that took part in the APPLAUD study, thank you. The added notes of encouragement on the questionnaires meant a lot to me and made me realise that my work might actually be important. To the 16 participants that took the time to talk to me on the phone or in person for my qualitative interviews, thank you for sharing your stories so openly and honestly with me.

It hasn’t always been an easy road, and there have been many times when imposter syndrome, overwhelming fatigue, and ‘ugly crying’ have made me wonder if I was ever going to finish my thesis. There are so many people (and four-legged friends) who have picked me up when times got tough. Thanks to everyone at Aldermoor for always being so friendly and welcoming. In particular: my 109ers Wendy, Sam, Jane, Jackie, Sarah, and Claire, thank you for being my soundboard and putting up with my frustrated sighing in the office. Cat and Anna, thank you for the many giggles, GIFs, and support. Outside of work, thank you to Laura for being the best friend I could ever ask for and for persuading me to come back to Southampton after our MSc. You are beautiful inside and out. To my PhD Forum friends, what a wonderful bunch of human beings you are. Here’s to many more plants and celebrating all your successes: ‘all power to you’. To my

Acknowledgements

Mum, Dad, and brother Ben, I am so grateful for your support, love, and encouragement. To Ollie, thank you for listening to me try to explain my PhD to you and tolerating my 'grumpy' moments. To Otto, my best boi, you showed me how rewarding working hard and perseverance could be. To Tilly, my little ginger pig, thank you for being my alarm clock over the last 10 months.

Finally, to my Jimmy, my absolute rock. I did it! Three houses (and a caravan), one engagement, one wedding, and one global pandemic later, here we are. Thank you for being so unbelievably patient with me and being an incredible 'PhD widower'. Thank you for your love, support, 'pep talks', and just...everything. We might actually have to start talking to each other now...

Definitions and Abbreviations

APPLAUD	Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression
BDQ	Beliefs about Depression Questionnaire
BMQ	Beliefs about Medicines Questionnaire
BNF	British National Formulary
CAM.....	Complementary and Alternative Medicine
CAQDAS.....	Computer Assisted Qualitative Data Analysis Software
CASM.....	Cognitive Aspects of Survey Methodology
CBT	Cognitive Behavioural Therapy
CIS	Critical Interpretive Synthesis
CRN.....	Clinical Research Network
CSM	Common Sense Model
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, version 5
EBM	Evidence-Based Medicine
GP	General Practitioner
HBM	Health Belief Model
HRA	Health Research Authority
ICD-10.....	International Classification of Diseases, version 10
IPQ-R	Revised Illness Perception Questionnaire
LOA.....	Line of Argument
MMAT	Mixed Methods Appraisal Tool
MNAR.....	Missing Not at Random
NCF	Necessity-Concerns Framework
NICE.....	National Institute for Health and Care Excellence
NIHR	National Institute for Health Research
PATD.....	Patient Attitudes towards Deprescribing

Definitions and Abbreviations

PBC.....	Perceived Behavioural Control
PHQ-8.....	Patient Health Questionnaire for Depression (8 items)
PHQ-9.....	Patient Health Questionnaire for Depression (9 items)
PIL	Participant Information Leaflet
PIM.....	Potentially Inappropriate Medicines
PMT.....	Protection Motivation Theory
PPI.....	Patient and Public Involvement
PROMs	Patient-Reported Outcome Measures
PROMDEP	Patient-Reported Outcome Measures for monitoring primary care patients with DEPRESSION
PROSPERO.....	International Prospective Register of Systematic Reviews
RCT.....	Randomised Controlled Trial
REDUCE	REviewing long-term antidepressant Use by Careful monitoring in Everyday practice
SPCR.....	School for Primary Care Research
SPSS.....	Statistical Package for Social Sciences
SSRI	Selective Serotonin Reuptake Inhibitor
TACT.....	Target, Action, Context, and Time
TPB.....	Theory of Planned Behaviour
TRA.....	Theory of Reasoned Action

Chapter 1 Introduction

This thesis shows the work I carried out for my PhD to explore patients' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care. I wanted to focus on primary care patients' attitudes and beliefs around long-term antidepressant use and their role in managing depression. This body of work aims to establish what is known about beliefs and attitudes towards long-term antidepressant use, including patients' views and experiences about their treatment and whether these beliefs can predict or explain intentions towards discontinuing long-term use.

This chapter gives an overview of how I chose this area of research for my PhD. I provide a summary of the current literature regarding beliefs and attitudes towards long-term antidepressant use and depression management in primary care. I explain my personal motivations for researching this topic and outline the aims and objectives for my PhD. I then describe my researcher position and how this may have impacted my work. Finally, I provide an outline of each of the chapters included in my thesis.

1.1 The rationale for the research

1.1.1 Depression treatment in primary care

Depression affects more than one in 10 adults in the UK,^{1,2} and mental ill-health represents between nine and 23 percent of the health burden in the UK,³ with up to 90% of people with depression managed in primary care.⁴ Depression is defined by the National Institute for Health and Care Excellence (NICE) as:

the absence of a positive affect (a loss of interest and enjoyment in ordinary things and experiences), low mood and a range of associated emotional, cognitive, physical and behavioural symptoms.^{5(p.17)}

NICE guidelines^{4,6} recommend that diagnoses of depression should be assessed based on the severity of symptoms, duration, and course. GPs should conduct a comprehensive initial assessment of patients presenting with depression, by asking the patient about current symptoms, any history of depressive episodes and experiences of treatment, and any systemic or cultural factors that may be having an impact on the patient.⁷ Based on the discussion between the GP and patient, a stepped-care approach should be implemented, by offering support, psychoeducation, and active monitoring to all known and suspected presentations of depression.⁴

If symptoms persist or the patient presents with mild to moderate depression, the recommended management strategies are active monitoring, good sleep hygiene, and low-intensity psychosocial interventions such as cognitive behavioural therapy (CBT), group therapy, and physical activity. Antidepressant treatment is only recommended if depression presents initially as moderate to severe, or if the above treatment for mild to moderate depression has not led to recovery.⁵ The process of starting antidepressant treatment should be a shared decision between the patient and the GP. The GP should discuss the process of starting antidepressant treatment, any potential side effects or interactions, and the possibility of discontinuation symptoms. Furthermore, the GP should listen to and address any concerns the patient has about antidepressant treatment.

Once patients start to benefit from antidepressant treatment, they should continue treatment for at least a further six months, known as the maintenance phase, as this reduces the risk of relapse. After two years of antidepressant treatment, the patient's need for antidepressants should be re-evaluated. The guidelines state that pharmacological treatment should only be maintained if the patient has either had at least two recent episodes of depression, if they are at significant risk of relapse, or the consequences of relapse are likely to be severe. A systematic review⁸ found that continuing antidepressant treatment can reduce the risk of relapse in individuals with recurrent depression. However, there is some uncertainty about the length of treatment individuals with recurrent depression should stay on treatment, and most studies in the review included samples of patients identified as being at high risk of relapse.

While the stepped-care model indicates that pharmacological intervention may not be the most appropriate treatment for patients presenting with mild symptoms of depression,⁴⁻⁶ a 2016 report on data collected from the Adult Psychiatric Morbidity Survey⁹ found that 55.3% of people with depression reported using medication, compared to 22.9% of people receiving psychological therapy alone, and 16.8% using a combination of medication and psychological therapy. Over the past two decades, antidepressant prescribing rates have risen considerably, nearly doubling between 2008 and 2018.^{10,11} Between 2015 and 2018, the rate of antidepressant prescribing increased from 15.8% to 16.6%^{2,12}; with 7.3 million people prescribed antidepressants in 2017/18, at an annual cost of approximately £266 million.¹³ Research¹² using a database of over 700 primary care practices in the UK showed that the prevalence of patients with depression presenting to General Practitioners (GPs) rose by only 3.9% between 2009 and 2013, while the number of antidepressant prescriptions rose by 36% in the same period. Further research^{11,14,15} has explained that the considerable rise in the volume of antidepressant prescriptions is due to an increased number of patients receiving continuous antidepressant treatment for longer.

A study of long-term antidepressant users¹⁶ concluded that a third to a half had no evidence-based indications to continue them and could try stopping treatment. Moreover, a systematic review¹⁷ investigating long-term outcomes of antidepressant-treated depression found that outcomes were generally poor (i.e. multiple recurrences of depressive episodes). Another review¹⁸ found that psychological interventions including CBT, mindfulness-based therapy and interpersonal therapy may be as effective as antidepressant treatment in preventing relapse. Furthermore, there is some argument that antidepressants may even have an iatrogenic effect as they may prevent people from identifying and confronting the direct cause of their depression.¹⁹ These findings suggest that long-term antidepressant use may not always be superior to alternative management strategies for long-term depression, and that their GP should offer patients these interventions and further non-drug management advice.

1.1.2 Long-term antidepressant use and review consultations

Given the evidence that GPs are prescribing longer courses of antidepressant treatment, it has been recommended that guidelines need to include more information on how recurrent and long-term depression should be appropriately reviewed and subsequently managed in primary care.^{20,21} Moore et al.¹⁵ question whether such a substantial rise in the number of patients in receipt of long-term antidepressants is justified and appropriate given current guidance, or whether it is down to a failure to discontinue inappropriate antidepressant treatment in those with milder illness. Some GPs also hold the view that patients have a desire to continue antidepressants due to fear of recurrence and believe that continued use of antidepressants is low risk in terms of potential harm to patients.^{22,23}

The NICE guidelines⁶ highlight the important role health professionals play in patients' continued treatment and management of long-term depression, by offering information on the illness, treatment advice, and ongoing support. In addition, the guidelines emphasise the need for regular review consultations. However, there is concern that few review consultations happen with patients who are long-term antidepressant users,²⁴ with the percentage of patients reviewed during each year of antidepressant therapy decreasing over ten years.^{24,25} Despite NICE recommendations, there are no formal processes within primary care for GPs to follow to carry out these reviews,^{23,25} even though GPs believe that individuals on long-term treatment for depression warrant continued antidepressant monitoring.²⁶ This emphasises the importance of GPs to invite patients who have been on antidepressants for more than two years to a review.²⁷ Reviewing long-term antidepressant use can reduce drug burden, with a primary care pharmacist-led study showing that around 15% of patients who had an active review had their antidepressant therapy altered, which led to a reduction in antidepressant prescribing.²⁸

While antidepressants may additionally pose the risk of adverse long-term side effects such as sexual problems, weight gain, feeling emotionally numb and the perception of being addicted to medication for some patients,²⁹⁻³¹ research has shown that minimising inappropriate long-term antidepressant use can be challenging for health professionals.^{23,32-34} Johnson et al.²² suggest that these challenges may be due to perceived patient demand and the lack of regular review consultations with some patients. Qualitative research suggests that patients prefer collecting repeat prescriptions and are ambivalent about arranging follow-up consultations with their GP,^{35,36} as they believe that a review is not necessary if the GP continues to sign repeat prescriptions remotely.³⁶ Patients who do have review consultations perceive the GP to play an important role in managing their depression and see value in seeing them face-to-face, as they feel they are being listened to.²⁶ As such, GPs should play a more prominent role in the patients' management of their depression and antidepressant use by encouraging patients to attend more face-to-face consultations to discuss management, long-term risks of antidepressant use, and continued support, should they wish to discontinue treatment.^{30,35-38} Some patients feel they do not have sufficient information and advice about using antidepressants to treat and manage their depression by their GP,³⁹ leading to concerns and misunderstanding surrounding their beliefs about antidepressant use.

1.1.3 The importance of patients' illness beliefs

Given that patients stay on antidepressants for longer and much of this prescribing may be inappropriate, it is important to examine patients' beliefs about their depression and long-term antidepressant use.

Schofield et al.⁴⁰ found that patients' beliefs about their antidepressant use changed over the duration of their treatment. Patients in the qualitative study talked about how they felt their knowledge and understanding of the risks and benefits of taking antidepressants increased over time, influencing their decisions to continue or stop treatment. Patients reported that their problems would not go away unless they stayed on antidepressants, which encouraged ongoing use due to fears of relapse. These findings resonate with those from Leydon et al.'s³⁶ qualitative study, which showed that patients were uncertain about the benefits of being on antidepressants, as they did not know whether their symptoms had improved due to psychosocial factors such as changing life circumstances or the passage of time; or whether their improvements were attributable to continued antidepressant use.

Despite some concerns about taking long-term antidepressants due to perceived long-term medical effects,^{22,30} other patients believe that antidepressants allow them to cope and function

on a day-to-day basis and are unaware of other management strategies to cope with symptoms.³⁰ In addition, patients believe that discontinuing antidepressants may cause adverse withdrawal effects and relapse.^{30,36} However, some patients report a greatly improved quality of life during treatment.³⁰

Lynch et al.^{41,42} explored whether illness beliefs predicted outcomes in depression, and findings showed that patients who held a stronger belief in the effectiveness of medication were more likely to be taking antidepressant medication, more likely to believe that their condition had a chronic timeline, and more likely to be currently depressed. Brown et al.⁴³ also found that the illness perception of a 'chronic timeline' for depression was related to current antidepressant use. One common finding across studies is that individuals have a greater perceived need for antidepressants if they believe their depression is caused by chemical imbalances or are hereditary.^{44,45} Therefore, the findings suggest that a greater belief in the chronic and biochemical nature of depression will lead to longer-term antidepressant treatment, as patients may believe that pharmacological interventions are more effective at symptom management than non-drug treatments.

In terms of non-drug treatments, higher self-efficacy and a belief in using talking therapies to manage depression predicted improved depressive symptoms at follow-up. In addition, individuals who believed in engaging in activities such as exercise or keeping busy to manage their depression had improved depression outcomes.^{18,41} However, the prescription of antidepressants did not appear to mediate these relationships, strengthening the argument that staying on long-term antidepressant treatment may not benefit some individuals. As such, patients' beliefs about alternative treatments seem to play a role in depression outcomes.

While behavioural approaches to managing long-term depression are important factors in managing depression, my PhD focuses explicitly on the beliefs and attitudes towards long-term antidepressant use in the management of depression, and the broader psychosocial issues of long-term antidepressant use.

1.1.4 The role of beliefs and attitudes in the management of long-term depression

While there is considerable evidence to highlight the rise in long-term antidepressant use, and subsequent issues surrounding ongoing management and treatment, the influence of patients' beliefs and attitudes towards long-term antidepressant use remains relatively unexplored. Research tends to focus on patients that are in the acute stages of treatment, with particular attention on how beliefs influence adherence to medication from initiation of treatment through to the maintenance phase,^{40,46,47} as opposed to the influence of patient beliefs on intentions to

continue or discontinue long-term use after at least two years. Moreover, much of the research that looks into long-term antidepressant use has included patients from secondary care settings,⁴⁸ or included samples at high risk of relapse,^{17,49} compared to individuals at low-risk who could try to stop treatment. Therefore, given the limited research into beliefs about long-term antidepressant use, exploring patients' beliefs, attitudes, and intentions to continue or discontinue long-term antidepressant use for depression should be further explored.

1.2 Personal motivation

I was motivated to research this topic for two reasons; the first being through my own experiences of being on long-term antidepressants, and secondly, from my research experience of working on trials that focussed on mental health in primary care. At the time of applying for my PhD, I was working as a Senior Research Assistant on a feasibility randomised controlled trial (RCT) that investigated the use of patient-reported outcome measures (PROMs) for monitoring primary care patients with DEPRESSION (The PROMDEP Feasibility Study⁵⁰). While working on PROMDEP, I realised that patients valued monitoring and follow-up from their GP during the initial stages of their depressive episodes. I wondered if patients on antidepressant treatment for a more extended period had similar views and experiences. Additionally, through completing my MSc in Health Psychology in 2012, I developed an interest in how psychosocial factors could influence attitudes, beliefs, and behaviours towards self-management for long-term conditions.

I spoke with Professor Tony Kendrick (Chief Investigator of PROMDEP), who told me about a former PhD student who developed the Beliefs about Depression Questionnaire (BDQ).^{41,42,51} The research showed that particular beliefs were related to depression outcomes six months later. From this, I wanted to explore how beliefs related to long-term antidepressant treatment and whether these beliefs could explain why patients were willing to continue taking antidepressants without being clinically indicated to do so. At the same time as drafting my PhD proposal, Professor Kendrick submitted a National Institute for Health Research (NIHR) Programme Grant for REviewing long-term antidepressant Use by Careful monitoring in Everyday practice (REDUCE). This programme of research aimed to develop and test an evidence-based intervention to help primary care patients discontinue inappropriate long-term antidepressant treatment. I felt that receiving expertise and supervision from Professor Kendrick while he was leading his own research on the topic would be highly beneficial.

I wanted to undertake a PhD as an opportunity to expand my knowledge and understanding of research methodology and its application in primary care settings. I had predominantly used qualitative research methods and wanted to learn more about mixed methods and questionnaire

design. I was awarded funding through the NIHR School for Primary Care Research (SPCR) to carry out my PhD.

1.3 Research aims and objectives

This PhD aimed to explore patient beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care.

The key objectives of my PhD were to:

- Review the existing literature to derive a theoretical framework for how patients decide to continue or discontinue long-term antidepressant use in primary care.
- Explore psychosocial models of health behaviour that could identify factors that influence patients' intentions to stop or continue long-term antidepressant treatment and develop a new questionnaire based on these models.
- Test the acceptability of the newly developed Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (APPLAUD) Questionnaire to determine patients' beliefs and attitudes towards long-term antidepressant discontinuation.
- Investigate attitudes and beliefs towards long-term antidepressant use in primary care, and determine whether a theoretically derived model of health behaviour could predict patients' intentions to stop long-term antidepressant treatment for depression.
- Explore patients' views, experiences, and understanding of long-term antidepressant use in the management of long-term depression.

1.4 Researcher paradigm and critical reflection

As a researcher, I acknowledge that it is not entirely possible to step outside of my own ontological assumptions as to what is 'real', and that consideration needs to be given towards my epistemological stance in terms of how I have tried to obtain knowledge and understanding of patients' realities of long-term antidepressant treatment and intentions towards stopping or continuing their use.

My researcher stance aligned with critical realism. Critical realism argues that the positivist paradigm promotes an 'epistemic fallacy',^{52(p.27)} confining reality to empirical, scientific observation. Similarly, critical realism differs from the interpretivist and constructivist paradigms that suggest our understanding of reality is observed, interpreted, and constructed between participants and the researcher.⁵³ Critical realism is more in line with

the pragmatist stance as it suggests that a specific philosophical paradigm should not determine the method of research, but instead can be informed by several paradigms (such as positivism and interpretivism).⁵⁴ Using mixed methods allows for different theoretical lenses to be used, to investigate and elicit a deepened understanding of a phenomenon.^{54,55} The critical realist perspective goes further and states that we should also consider the influence of these philosophical assumptions on the methods we use to conduct research, particularly when using mixed methods.⁵⁴⁻⁵⁶ One of the key concepts of critical realism is that ontology (the nature of reality) cannot be directly observed, but we create our own epistemological assumptions of reality based on our perspectives and experiences through what is observable at the time.⁵⁷ Bhaskar suggests that there are three ontological levels: the empirical level, the actual level, and the real level.⁵² At the empirical level are direct observations and experiences. Assumptions about these observations and experiences can be made through common sense or can be measured objectively.⁵⁸ This is the level where social ideas, decisions, meaning and actions can be formed based on our interpretations of what is happening. The actual level represents events that occur, irrespective of whether they are experienced or not.⁵⁹ As such, these actual occurrences are often different to what is observed at the empirical level. The real level is the deepest level of social reality where causal mechanisms exist. These mechanisms are the intrinsic properties of structures that make events occur.⁵⁸ While these mechanisms cannot be fully explained or observed, they can contribute to our understanding of what is happening at the empirical level.⁵⁹ Bhaskar⁵⁷ explains that these causal mechanisms are social products that can be understood through observations of human action and ideas at the empirical level, and in turn gives justification to investigate a particular phenomenon.⁵⁸

In line with the postpositivist paradigm, I agree with the realist ontology that there is one universal truth 'out there' regarding long-term antidepressant use. However, my epistemological assumptions are slightly more in line with the interpretivist paradigm, in that our knowledge and understanding is influenced by experiences, perceptions, and interactions between the researcher and participant. However, rather than the relativist view that there are multiple *realities* that are socially constructed, I believe that multiple *theories of reality* are socially constructed and influenced by our methodological approaches and personal interests and agendas.⁵⁵

I have attempted to choose the most appropriate methodologies and methods to explore patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant use throughout my PhD. I have also tried to be as reflexive as possible, thinking critically about how my own researcher and personal position use may have influenced the direction of my

PhD. In my discussion chapter (Chapter 8), I provide an overall critical reflection of how my own personal, lived experiences of being a ‘long-term antidepressant user’ and a researcher with a psychological background may have influenced the direction of my research. Inevitably, while discovering a universal truth about long-term antidepressant use would be ideal, I acknowledge that this will never be possible. However, I have attempted to create a theoretical understanding of what we can observe to be ‘real’ by taking a cautious and critical approach towards my research.

1.5 Structure of the thesis

Chapter 2 How do people make decisions about whether to continue or discontinue long-term antidepressant use for depression? A Critical Interpretive Synthesis

Chapter 2 is a systematic review of the literature on long-term antidepressant use and long-term depression in primary care. The chapter describes the method of critical interpretive synthesis (CIS) that I used for my review and the findings from the synthesis. The synthesis aimed to explore and create a theoretical framework around how patients decide to stop or continue taking long-term antidepressants for depression.

Chapter 3: Models of Health Behaviour

Chapter 3 is an overview and critique of models of health behaviour, with particular focus on the Theory of Planned Behaviour (TPB),⁶⁰ Necessity-Concerns Framework (NCF),⁶¹ and deprescribing theory⁶² that were used to develop the APPLAUD questionnaire.

Chapter 4: Development of a questionnaire to investigate patient beliefs, attitudes, and behavioural intentions towards long-term antidepressant use for depression

This chapter describes how the APPLAUD questionnaire was developed. It focuses on the methods around questionnaire survey design and the development of the APPLAUD questionnaire using psychosocial models of health behaviour.

Chapter 5: Testing the acceptability of a questionnaire to investigate patient beliefs, attitudes, and behavioural intentions towards long-term antidepressant use for depression: A cognitive interview study

Chapter 5 discusses the cognitive interview study I conducted to test and develop the APPLAUD questionnaire, using a small sample of participants with long-term depression who were taking antidepressants. The chapter explains how the questionnaire was refined and re-tested before its use in the main study.

Chapter 6: Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression: The APPLAUD Study

Chapter 6 describes the quantitative component of the embedded mixed methods study I carried out to explore patients' beliefs, attitudes, and behavioural intentions regarding long-term antidepressant use for depression.

Chapter 7: Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression: A nested qualitative Study

This chapter provides an in-depth qualitative exploration of the beliefs, attitudes, and behavioural intentions towards long-term antidepressant use of a sample of participants who completed the APPLAUD questionnaire, as well as an interpretation of both the qualitative and quantitative findings.

Chapter 8: Discussion

The final chapter of this thesis presents an overview of the research I conducted and discusses the main findings. I compare my findings with the current literature, their implications in expanding current evidence, and suggestions for future research. I discuss the strengths and limitations of my work and provide a personal reflection on how my ontological position may have influenced my research findings.

Chapter 2 How do people make decisions about whether to continue or discontinue long-term antidepressant use for depression? A Critical Interpretive Synthesis.

2.1 Introduction

Findings from the literature presented in Chapter 1 show that the rise in antidepressant prescriptions⁶³ is due to an increase in long-term use.^{11,14,15,20,64} This is despite some 30-50% of patients having no clinical indication to continue antidepressant treatment, in line with the recommendations set out by National Institute for Health and Care Excellence (NICE) Guidelines.^{6,16,65,66} Evidence suggests that patient beliefs and attitudes towards depression and long-term antidepressant use may influence a patient's decision to stop or continue treatment.^{30,36,40-45} Given these findings, I aimed to derive a conceptual framework by conducting a systematic review and synthesis of the existing literature to identify how these or any other factors may influence how patients decide to stop or continue long-term antidepressant treatment. Deriving a conceptual framework allows for the key constructs and factors that may affect patients' decisions to stop or continue treatment to be explained, while ensuring that the development of theory is grounded in the evidence.⁶⁷ This conceptual framework was helpful to consider areas that may require further investigation during my PhD to understand patient beliefs, attitudes, and intentions to stop or continue long-term antidepressant use. In line with the critical realist approach⁶⁸ (as described in Chapter 1), while the findings from the literature may give a theoretical representation of what is happening, it is important to reflect on how this knowledge and understanding of reality has been achieved; taking a critical approach towards the methodologies used and how the data have been collected, reported, and interpreted.

A recent systematic review and thematic synthesis³⁸ we carried out as part of the REviewing long-term antidepressant Use by Careful monitoring in Everyday practice (REDUCE) programme found numerous and complex barriers and facilitators to discontinuing antidepressant use, based on the evidence found in 20 qualitative studies. However, while patients may view the GP as a facilitator in discontinuing antidepressants, it was not possible to explore health professionals' views to the same extent, as only five of the studies included in the review explored the opinions of health professionals. Researchers on the REDUCE programme have since conducted a focus group study³⁴ with health professionals to elicit their views on helping patients discontinue antidepressant use in primary care. The findings suggested that health professionals faced

uncertainty about who was responsible for broaching the subject of discontinuation and that more support was needed to facilitate management and discussions around long-term antidepressant use with patients.

Given the limited qualitative evidence around GP views around discontinuing long-term antidepressant use, I felt a more extensive review was needed to include any quantitative or mixed methods studies that explored GPs' views about long-term antidepressant use and long-term depression management. Identifying and reviewing quantitative survey data could help identify what factors may predict patients' decisions to stop or continue treatment. The data could highlight common beliefs or opinions about long-term antidepressant use within larger and more representative samples of the populations studied, including practitioners and patients. Moreover, quantitative systematic reviews tend to be restricted to randomised controlled trials (RCTs) and aggregative in their approach.⁶⁹ Using a more extensive range of evidence and integrating qualitative and quantitative data may allow better development of theory about why current clinical guidelines and policies may or may not be working, for whom they work, and to understand the context in which they work.⁷⁰

2.2 Design

I wanted to develop a theoretical understanding of how patients decide to stop or continue long-term antidepressant use, constructed using empirical findings. Therefore conducting a critical interpretive synthesis (CIS)⁷¹ seemed an appropriate approach to take in this instance.

CIS is based on the methods of meta-ethnography,⁷² a method used to synthesise qualitative data. Meta-ethnography involves an interpretive and inductive approach to synthesising qualitative findings to develop an understanding of ideas and concepts about a given phenomenon.⁷²⁻⁷⁵ One way to synthesise studies is through a 'line of argument' (LOA) approach.⁷² This is where studies identify and collate different aspects of the phenomenon to be explored to make new interpretations and inferences.^{72,75} To create an LOA synthesis, Noblit and Hare⁷² built on Schutz's⁷⁶ concept of 'first-' and 'second-order constructs' to integrate the findings. First-order constructs are an individual's everyday experience and understanding of a given phenomenon, and second-order constructs are the interpretations of the first-order constructs by authors in the primary studies to explain what is happening. In meta-ethnography, a LOA synthesis explores how second-order constructs relate to each other, both within and between studies, and then translates the central concepts into one another to create a third-order interpretation.^{72,73,75}

In CIS, third-order interpretations are defined as 'synthetic constructs', which are created by transforming the evidence presented in the primary studies into a new conceptual form.⁷⁷ These

synthetic constructs can then be integrated to form a 'synthesising argument', which is a creation of a coherent theoretical framework to explain how both second-order and synthetic constructs may be related to one another to provide a formative, generalisable explanation of a phenomenon.⁷⁸ As there appears to be some discrepancy in the literature concerning the terminology used to define first- and second-order constructs,^{69,75,76,79} I have defined first-order, second-order, and synthetic constructs as the following:

1. First-order constructs were participants' interpretations of their experiences and views around the phenomenon of interest explored in the studies. These constructs were available to me in the form of participant quotes in the papers included in the CIS.
2. Second-order constructs were the primary study authors' interpretations of the participants' interpretations of their experiences and views around the phenomenon of interest explored in the studies.
3. Synthetic constructs were my interpretations of the second-order constructs presented in the papers included in the CIS.

Meta-ethnography is a valuable way of reviewing and synthesising qualitative research, as it goes beyond traditional reviewing methods by providing further interpretation and explanations of phenomena, compared to just a summary of findings of a body of literature.⁶⁹ However, there are some limitations to this approach. There is no guidance on how to appraise the quality of the literature included in the review, as it is merely a method of synthesis. Moreover, the methods of meta-ethnography may not be suitable for synthesising quantitative data as it is more interpretative than integrative in its approach.^{69,78} A meta-ethnography may not be suitable when a review aims to generate a theory about a given phenomenon from a diverse range of multi-disciplinary and multi-method research.^{78,80} CIS expands on the methods of meta-ethnography by including quantitative literature in the data sample. Moreover, an appraisal process is incorporated to assess the quality of papers based on their relevance to the research question,^{78,80} in terms of how well the findings from the paper contribute towards the development of a theory and some assessment of the methodological quality of the studies. Table 2.1 highlights the key differences between meta-ethnography and CIS.

Table 2.1 Key differences between meta-ethnography and CIS

Meta-ethnography	CIS
<ul style="list-style-type: none"> Traditionally used to synthesise qualitative evidence. Creates 'third-order' interpretations by translating second-order constructs from primary studies into one another using an LOA synthesis to create a new interpretation of a phenomenon. Quality tools are sometimes used, but the quality of studies is mainly determined by how much they contribute to the synthesis. 	<ul style="list-style-type: none"> Used to synthesise both qualitative and quantitative evidence. Creates 'synthetic constructs' by transforming 'second-order' interpretations from primary studies into a new conceptual form. Synthetic constructs and second-order interpretations are integrated to form a 'synthesising argument' to create a theoretical understanding of a phenomenon. Prioritises papers based on the relevance to the research question and critically appraises the methodological quality of the papers.

2.2.1 Review question and objectives

The stages of CIS are iterative; therefore, the scope of the review can change throughout the process. Literature may be added during the sampling, extraction, or synthesis stages of the review.⁷⁸ The review question should act as a 'compass' to direct the CIS rather than to set the parameters of the synthesis.

Initially, the compass question for the review was: *What is known about long-term antidepressant use for depression in primary care?* However, after conducting the literature review (Chapter 1), I felt this question could result in another summary of evidence rather than orienting the scope of the review to develop a conceptual framework.

The refined compass question for this review was: *How do people make decisions about whether to continue or discontinue long-term antidepressant use for depression?*

The objectives were to:

- Conduct a systematic search to identify existing literature that investigated and explored patients' long-term antidepressant use to treat depression in primary care.
- Identify the findings and interpretations of these findings by the study authors and formulate a synthesising argument using critical interpretive methods.⁷⁸
- Develop a conceptual framework that summarises what the evidence says about how patients decide whether to stop or continue long-term antidepressant use.

2.3 Method

The protocol for the synthesis was registered on the International prospective register of systematic reviews (PROSPERO) on 31st October 2016.⁸¹

2.3.1 Literature search

A literature search was conducted to identify published papers using either qualitative, quantitative, or mixed methodologies that explored long-term depression management in current primary care practice.

The search strategy aimed to find papers concerning the following areas:

1. Long-term depression
2. Long-term antidepressant use
3. Long-term depression management
4. Primary care research
5. Adults

Literature where depression was a secondary illness (i.e. studies conducted on populations with comorbid, long-term conditions that explored depressive symptoms) were excluded, as the review focused on issues specific to the illness of long-term depression. Literature published before 2000 was excluded to focus on current practice.

Bibliographic databases (MEDLINE, PsycINFO, CINAHL, and EMBASE) were searched in May 2016 with assistance from the Health Services Librarian affiliated with the Faculty of Medicine. One of my supervisors TK (Professor of Primary Care with expertise in mental health), also helped identify any additional literature that seemed to be relevant to the aims of the synthesis; and 'reference chaining' was employed, searching the reference lists of identified relevant papers. The searches can be found in Appendix A. I re-ran the search in September 2020 to identify any new papers that may have further informed my synthesis.

2.3.2 Study screening, selection, and data extraction

The methodology for conventional systematic reviews requires rigid inclusion criteria to ensure that only literature of high methodological quality and designs specific to the aims of the review question (e.g. RCTs) are included. In a CIS, the approach is different as papers are included irrespective of the methods used, along with their relevance for developing a theoretical framework to explain a phenomenon.⁷⁸ Therefore, a purposive sampling approach was used to select studies that were relevant to the aims and objectives of the synthesis.⁸²

Chapter 2

All articles identified through the literature search were imported into Endnote X8⁸³ reference management software to facilitate the screening process. Duplicate references were removed, along with papers that were not deemed relevant to the aims of the synthesis based on their titles. I screened the abstracts of the remaining references independently, using the following inclusion and exclusion criteria in Table 2.2 below. TK also independently screened the abstracts to help optimise the robustness of the selection of papers. Once we completed the independent screening of abstracts, TK and I discussed our reasons for including or excluding papers together to end up with an agreed sample of papers relevant to the research question.

Table 2.2 Inclusion and exclusion criteria of studies

Inclusion criteria	Exclusion criteria	Justification
Studies conducted in primary care settings.	Studies conducted outside of primary care settings.	Review focusses on antidepressant treatment for patients managed in primary care rather than those receiving the majority of their care in other settings (e.g. psychiatric care).
Long-term depression (ideally studies with cohorts of patients that have been diagnosed with long-term depression/in receipt of treatment for 2+ years).	Studies that explicitly state that sample of interest involves patients diagnosed with new episodes of depression or in the initial stages of antidepressant treatment.	The review aims to explore patients on long-term antidepressant use rather than those just starting treatment for a new episode of depression.
Studies that explore medical or non-medical treatment or management of long-term depression. Any type of antidepressant medication can be included. Non-medical approaches may consist of (but not be limited to) psychotherapy, cognitive behavioural therapy (CBT), counselling, online interventions, psycho-educational programmes, complementary and alternative medicine (CAM) treatments, psychosocial interventions.	Trials testing novel interventions of depression management that are not part of usual primary care.	The review aims to explore how decisions are made to stop or continue antidepressant use, considering alternative treatment options that are already part of current practice.
Studies where depression is investigated as a primary condition. Studies where patients have comorbidities can be included.	Depression is a secondary illness (e.g. studies conducted on populations with long-term conditions that explore depressive symptoms).	The primary condition of interest is depression and its management.
Sample restricted to adults aged 18 or over.	Papers that focus on children, or young adults, (i.e. under the age of 18), or older participants over 85.	Treatment and management of the very young or oldest-old may not be relevant to the adult population in my primary research.

A total of 3,724 papers were yielded from database searches and TK's prior knowledge. After the removal of duplicates and title screening, TK and I screened the abstracts of 453 records. The full texts of 37 papers were identified as potentially relevant. After I read the full texts, seven papers

were excluded as they did not focus on long-term depression (n=5), one did not recruit participants from primary care, and one discussed the results of an RCT of an intervention for long-term depression management that was not part of current practice. Figure 2.1 illustrates the screening and identification of papers for the synthesis.

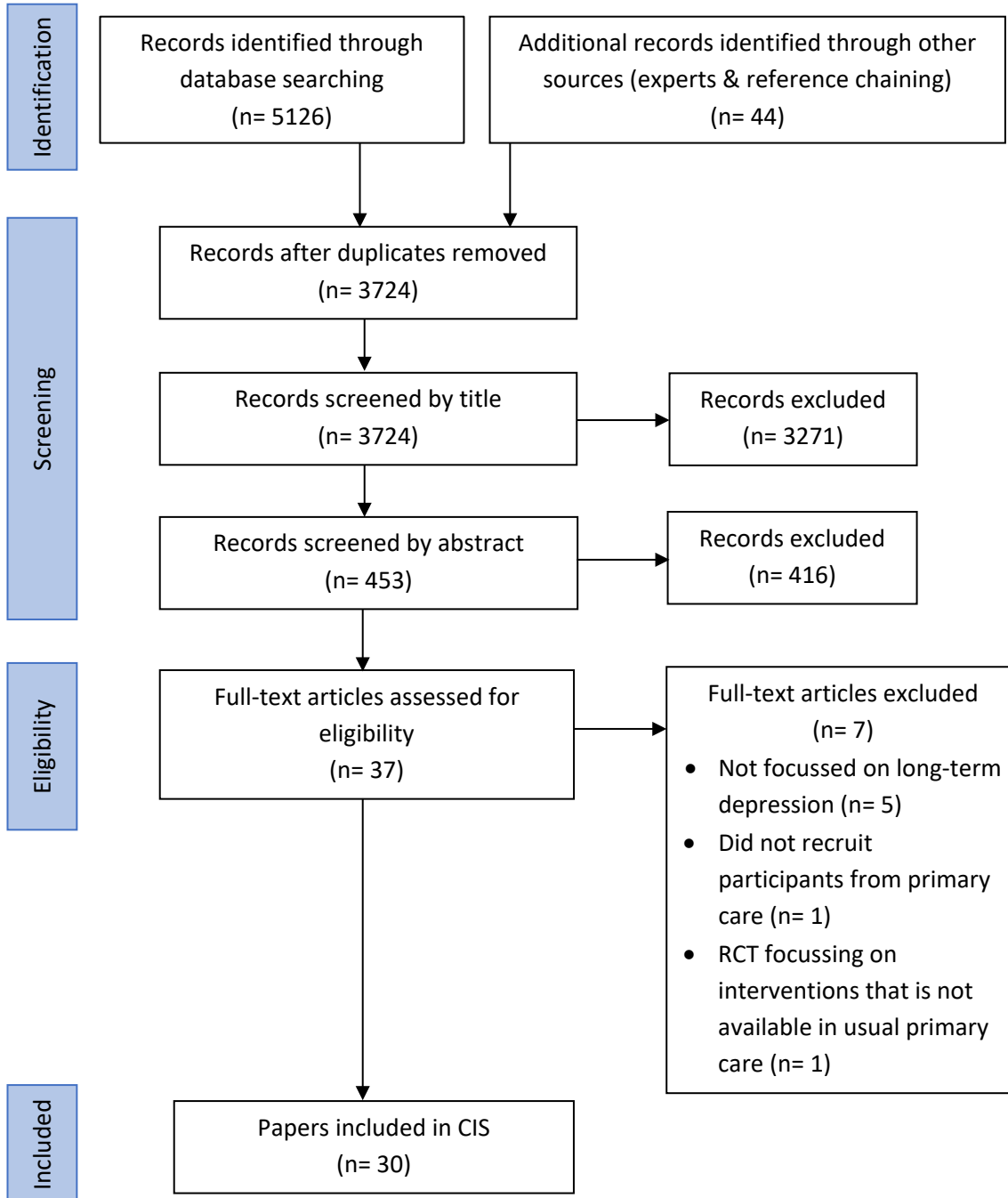


Figure 2.1 PRISMA flowchart of papers selected for the CIS

2.3.2.1 Data extraction

For the 30 papers included in the synthesis, a data extraction table was created (Appendix B). The information included:

- Publication year
- Country of study
- Methodology and study design
- Participant characteristics and sample size
- Study aims
- Key findings relevant to the compass question
- Critical considerations for interpretation of CIS
- Priority

The process of data extraction of the findings presented in the papers was facilitated by the use of Computer Assisted Qualitative Data Analysis Software (CAQDAS) (NVivo 11⁸⁴ and NVivo 12⁸⁵). NVivo is a useful program to act as a project management tool to collate full-texts, code data, develop conceptual maps and frameworks, facilitate analysis, and document reflexive thought processes while performing the synthesis. A key consideration when conducting a CIS is to ensure that the development of theory is firmly grounded in the data; therefore, NVivo facilitates the synthesis of findings by highlighting the second-order constructs within the context of their respective studies.

2.3.2.2 Data Synthesis

CIS expands on the meta-ethnographic process of creating an LOA synthesis by developing a synthesising argument.⁷⁸ For my review, once the data had been coded through detailed extraction, these extracts were then translated into theoretical concepts while remaining grounded in the data. As new theoretical concepts were generated through the synthesis of findings, a constant comparative approach^{72,86} (repeatedly comparing the findings between the studies to identify any similarities or differences in concepts or interpretations) was adopted to ensure that the development of these new synthetic constructs was grounded in the existing evidence. Synthetic constructs are interpretations of the whole of the evidence and allow multiple aspects of a phenomenon to be combined in a more explanatory way⁷⁸; and reflect the empirical, conceptual, and theoretical findings from the primary data.

2.3.2.3 Determination of methodological and reporting quality

Conventional systematic reviews usually assess the quality of the literature based on their study design, using a hierarchy-of-evidence approach,⁸⁷ where RCTs and quasi-experimental studies are seen as more robust than observational and qualitative studies. There has been some debate on

how to appraise the quality of papers included in interpretive reviews,⁸⁸ as some argue that studies conducted with a less robust methodological design may still contain informative and important data.⁸² Moreover, due to the diverse range of methodological approaches and data collection methods in qualitative research, it can be challenging to apply unified quality criteria to appraise qualitative studies.⁸⁸

Papers should be prioritised based on their relevance to the aims of the synthesis instead of meeting particular methodological standards.^{78,80} However, CIS is a *critical* appraisal of the methodological quality of the papers, in terms of their design, context, and the authors’ interpretation of the data. Studies that are deemed ‘fatally flawed’ in terms of their design should be excluded from the synthesis, with reasons provided for their exclusion. Table 2.3 lists recommended appraisal prompts^{78,89} that should be used when assessing the quality of papers. During my synthesis, the credibility and relevance of the papers in answering the aims and objectives of this review were considered. No studies were identified as ‘fatally flawed’ in their methodological approach or methods used; therefore, none were excluded.

Table 2.3. Questions to appraise the methodological quality of papers included in a CIS

Question
1. Are the aims and objectives of the research clearly stated?
2. Is the research design clearly specified and appropriate for the aims and objectives of the research?
3. Do the researchers provide a clear account of the process by which their findings were reproduced?
4. Do the researchers display enough data to support their interpretations and conclusions?
5. Is the method of analysis appropriate and adequately explicated?

In addition to the questions mentioned in Table 2.3, my supervisors and I decided that an additional appraisal checklist should be used for this synthesis, to conduct a further critical appraisal of the methodological design and help to inform the critical interpretation of findings within the literature. The Mixed Methods Appraisal Tool⁹⁰ (MMAT) was developed through a thematic analysis⁹¹ of 17 health-related systematic Mixed Studies Reviews, which created 19 items to assess the methodological quality of qualitative research, RCTs, non-randomised studies, quantitative descriptive studies, and mixed methods studies. Pluye et al.⁹⁰ state that the MMAT is a reliable way of appraising literature (indicated by an intra-class correlation of 0.8). The tool allows for a more in-depth critique of the papers than the questions presented in Table 2.3 and enables users to create a more critical and descriptive summary of the papers. A list of questions included in the MMAT can be found in Appendix C. An appraisal of all 30 papers using the MMAT is shown in Appendix D.

A worked example can be explained using Verbeek-Heida and Mathot's⁹² qualitative study exploring patient views on stopping or continuing antidepressant treatment. By using the MMAT and Dixon-Woods et al.'s⁷⁸ recommended prompts for appraising the quality of papers, the study appears to be of strong quality, as the aims of the research are clearly outlined, appropriate methods are used, and the reporting of the findings are clear and supported with illustrative quotes. However, some aspects of the paper should be considered when using the findings to inform the synthesis. For example, how representative the sample is to a broader population of people taking antidepressants long-term; and the fact the quotes from participants have been translated from Dutch, which means some of the context may have been lost in translation. Despite these limitations, I considered the paper to be of high relevance, as the aims and findings of the study relate very closely to the aims and objectives of the synthesis.

2.4 Findings

2.4.1 Study selection and characteristics

Thirty papers were identified through the literature search and included in the synthesis. Ten papers used qualitative methods, consisting of semi-structured interviews (n= 9),^{35,36,92-98} and one study analysed video recordings of consultations.⁹⁹ Nineteen quantitative studies were included in the synthesis, using cross-sectional (n= 6),^{51,65,100-103} cohort (n= 12),^{24,25,28,104-112} and systematic review¹¹³ designs. Five of the cohort studies^{104-106,108,109} included participants taking part in RCTs. Three of these studies^{104,108,109} used participant data from an RCT¹¹⁴ investigating the effects of a psycho-educational programme for the treatment and prevention of depression, one¹⁰⁵ included participant data from an RCT¹¹⁵ examining a depression relapse intervention versus usual care; and one study¹⁰⁶ used participant data from an RCT comparing paroxetine, problem-solving therapy, and placebo for depressive symptoms in elderly patients with dysthymia or minor depression.

One study⁴³ used mixed methods, using questionnaire surveys and semi-structured interviews. Twenty-one studies^{24,25,28,35,36,43,51,65,92,96,103-113} included only patients in the sample, four focused on GPs,^{97,100-102} and five^{93-95,98,99} included both patients and GPs.

The findings from the quantitative literature tended to focus on three areas of depression and long-term antidepressant use concerning this question:

1. Sociodemographic and clinical factors that may be predictors of either persistent or recurrent depression,^{104,108,109,111,113} and/or long-term antidepressant use^{65,105}
2. Identifying beliefs about depression^{43,51,106}
3. Prescribing rates, monitoring frequency, and treatment outcomes^{24,25,28,100-103,107,110,112}

The findings from the quantitative studies were viewed alongside the findings from the qualitative literature using the constant comparative method⁸⁶ to formulate synthetic constructs incorporating both methodologies. This was to determine whether the qualitative findings could explain the findings in the quantitative studies.

2.4.2 Updated literature search

The updated literature search conducted in September 2020 yielded a further six papers^{22,38,116-119} that were relevant to the synthesis. The PRISMA flowchart for the updated search is presented in Appendix E. Data extracted from these papers that are relevant to the synthesis can be found in Appendix F. I felt that the findings from these papers reflected those that were already included in my synthesis and supported the synthesising arguments that I had created. Despite identifying new studies, I felt the new information identified would be unlikely to change the findings of my synthesis.¹²⁰ Therefore, the main findings presented below are based on the studies identified from the initial search.

2.4.3 Methodological quality considerations

Using the MMAT and critical reflection of the papers identified some factors relating to methodological quality that needed to be considered during the synthesis and my interpretation of the findings.

Firstly, antidepressant treatment duration was not consistently reported across the studies. Some studies did not report the antidepressant treatment duration of patients recruited to the study or included patients within the sample that had been on antidepressants for less than two years^{36,43,51,99,100,102,103,110} (the working definition of long-term antidepressant use for this review).

Furthermore, some methods of sampling used in the studies may have implications for the review, as they were not always clearly reported,⁹⁶ and some patients were recruited opportunistically by GPs,^{28,35,36,98,111} which could lead to some selection bias if patients with greater satisfaction with their care from their GP were more willing to either be invited or to

agree to take part. Moreover, two studies recruited participants from an older population,^{94,110} so incorporating the findings from these studies required careful consideration. Patients from the older population may have more complex healthcare needs than younger patients due to comorbidities and more potential drug treatments. In addition, it was not always clear from which participants the findings came, and so it was not always possible to interpret the findings in relation to individual participant characteristics, particularly in studies where the sample included participants that had received antidepressant prescriptions for either less or more than two years. Patients' experiences of being on antidepressants for different lengths of time may differ, which may influence how they decide whether to stop or continue treatment.

Another difficulty in creating synthetic arguments from the literature is that it is not always clear whether participants had any experience of discontinuing antidepressant use, whether these attempts to stop have been successful, and if so, how long participants have been off antidepressant treatment. Therefore, it is difficult to determine whether factors that influence patients' decisions to cease or continue treatment are grounded in real-life experiences or based on patients' perceptions of what may or may not happen if they were to consider stopping treatment.

Some studies^{25,51,97,101,106,112} focused on medication adherence instead of discontinuation, with some studies^{97,101,112} exploring the initial treatment and ongoing management of depressive episodes. Experiences during the acute phases of treatment may differ from those further on in their treatment journey; thus, findings of these studies must be interpreted with caution when considering them alongside the findings of studies of patients who had been on treatment for longer.

One final consideration is that assumptions of what happens during the review consultation may be based on retrospective experiences, beliefs, and understanding from patients and GPs. Some views may also be patients' assumptions of what the GP thinks, and vice-versa. While retrospective data is helpful in this context, the data may not be as robust as directly observing the actual interaction between the patient and their GP during the consultation, how all the factors described above influence the decision-making process, and by how much.

2.4.4 Main findings

The findings from the literature suggest that deciding to stop or continue long-term antidepressant use is a complex process that can be affected by a multitude of different factors.

The synthesis yielded 12 synthetic constructs, which are illustrated in Figure 2.2. These synthetic constructs can be grouped under five synthesising arguments: *Patient representations and understanding of depression*; *The role of antidepressants in managing depression*; *Knowing when and how to stop antidepressants*; *The importance of GP monitoring and reviews of the need for treatment*; and *The role of the GP during monitoring and review*. One synthetic construct that featured within each of the synthesising arguments was that of uncertainty, and the influence this has on the decision-making process.

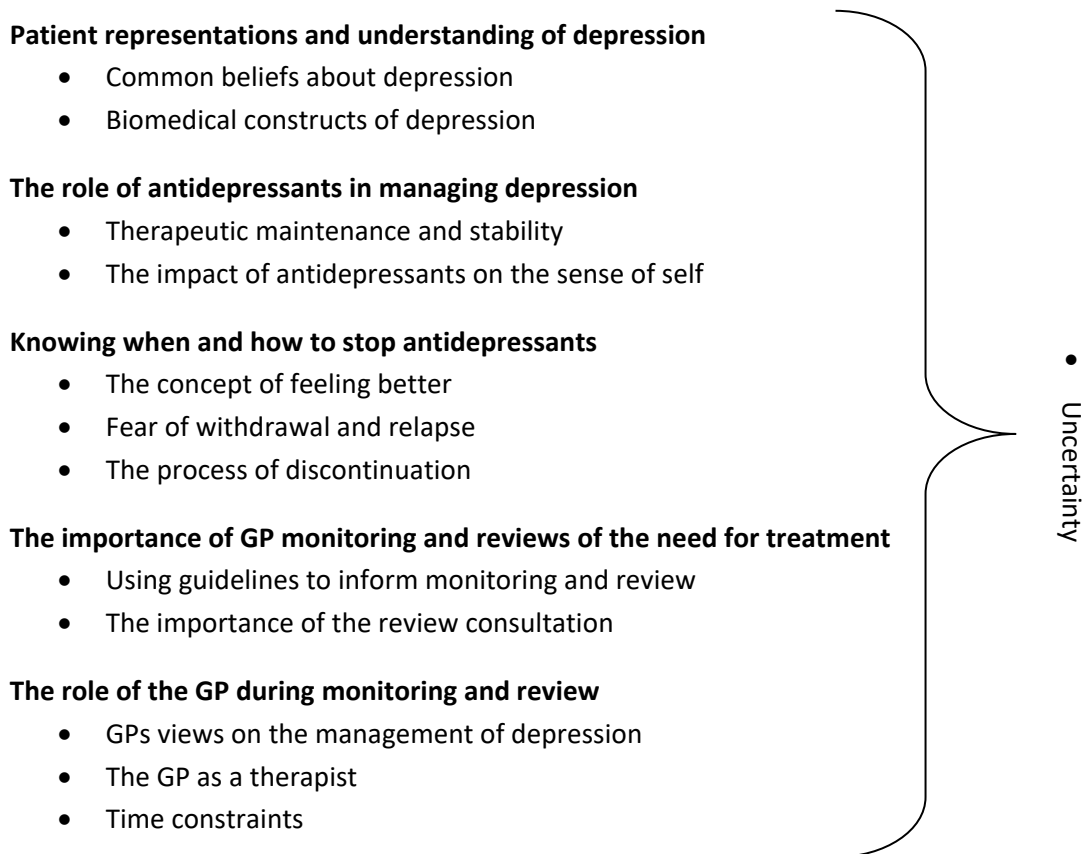


Figure 2.2 Synthetic constructs represented within synthesising arguments

The synthesising arguments and synthetic constructs within these arguments are discussed below. I have included first- and second-order constructs from the papers to show how my interpretations are grounded in the data. First-order constructs (direct quotes from participants) are presented as indented paragraphs, using double quotation marks and italics, and second-order constructs are presented as indented paragraphs. Where some extracts from the literature are long, I have used ellipses in square brackets ([...]) to show where this text has been edited.

2.4.5 Patient representations and understanding of depression

The qualitative findings from the literature included in the synthesis suggest that depression is an illness that both patients and GPs find challenging to understand and manage fully,¹⁰³ as beliefs about depression can be constructed by incorporating different and multiple factors.⁹³

One qualitative study exploring GP and patient views on the management of depression found that participants described depression as a 'vague, ambiguous, highly individual concept, imbued with moral and cultural values'.^{95(p.874)} However, while some of the qualitative evidence proposes that depression is a construct that may be unique to each individual,^{95,98} the quantitative evidence suggests patients may hold common beliefs about depression.

2.4.5.1 Common beliefs about depression

Two studies^{43,51} investigated whether beliefs about depression could be quantified and whether these beliefs were linked to treatment-related behaviour and outcome. Brown et al.'s⁴³ study found that the most commonly patient-reported causes of depressive symptoms were stress (68%), hereditary (41%), patients not taking care of their physical health (39%), relationship difficulties (39%), social problems, (34%), medical illness (32%), and reaction to medical illness (32%). Lynch's⁵¹ study found that patient beliefs about depression were consistent with Leventhal's¹²¹ self-regulatory model of illness cognitions. This model describes patients' beliefs about depression regarding how it is identified, the perceived causes, consequences, time course, and controllability. Both studies found that these illness cognitions can be associated with treatment behaviour and treatment duration.

However, the results from these studies should be interpreted with caution concerning the synthesising argument. The sample in Brown et al.'s⁴³ study included patients waiting for appointments at a clinic and were eligible if they had experienced a loss of interest or depressed mood in the past month, as well as others recruited from an ongoing study of minor depression. The small sample (n= 41) had just five percent of participants with dysthymia and 12 participants currently taking antidepressants. While the sample in Lynch et al.'s⁵¹ study consisted of patients who had been prescribed antidepressants over one year, the duration of antidepressant treatment was reliant on self-report by participants, and recalled length of treatment might not be as accurate as data obtained from patient records. Moreover, the study focused more on the association of beliefs with adherence to antidepressant medication instead of discontinuation. It is unclear whether those patient beliefs are associated in a converse direction with discontinuation of antidepressants after long-term use. While the samples included in Brown et al.'s⁴³ and Lynch et al.'s⁵¹ study may not be entirely representative of patients with long-term

depression, 63% of the sample in Brown et al.'s⁴³ study held the belief that depressive symptoms are fluctuating and intermittent, and 49% of the sample described depression as chronic.

The quantitative evidence investigating risk factors for persistent and recurrent depression suggests there may be common societal risk factors, including lower educational level,⁹² poorer self-reported quality of life,¹¹³ undergoing significant life events,¹¹³ non-working status,^{65,105,113} financial difficulties,^{65,105} relationship problems,^{43,105} lower levels of social support¹¹³ and social discrimination,^{65,111} which reflect the views that were reported among the participants in Brown et al.'s⁴³ study.

These findings are further supported by patients' views expressed in another study⁹⁸ whereby material, cultural and occupational problems were regarded as causes of depression. It appears that patients may attribute persistent and recurrent depression more to psychosocial factors than biological factors; however, it may be that psychosocial problems are more self-evident to individuals, whereas biomedical problems usually are not, with patients having less understanding of the biomedical mechanisms that underpin depression.

2.4.5.2 Biomedical constructs of depression

The uncertainty surrounding the construct of depression and the variation in causes of depression⁹⁵ may explain why some patients are unsure how to describe their symptoms to their GP, and find it difficult to talk about their problems that they believe to be predominantly psychological and not medical in origin.⁹⁸ Synthesising the findings from the papers suggests that GPs themselves do not all hold a uniform construct of the causes of depression but tend to explain it from a more biological perspective:

[...]some GPs encouraged patients to regard depression as something ontologically separate from the self and the mere experience of sadness, [...]and to provide a way forward in the form of antidepressant treatment.^{95(p.e5)}

"The problem with general practice is that the perception of psychiatric illness is one where it's still not seen necessarily as a biological condition. I happen to believe it is."
(GP10)⁹⁴

There is some suggestion that GPs are ambivalent about the role of antidepressants in managing depression, particularly if the episode could be attributed to psychological or social factors⁹⁴:

"Nowadays there is a medicalisation of life really, there are problems that we all have in our life. Some people need to have it turned into a medical problem to make it more valid"

or something. Rather than say I'm struggling to cope with my divorce or whatever, they come and say I'm depressed." (GP2)⁹⁴

Nolan and Badger inferred that giving a biomedical explanation of depression removes patients' concerns of having a 'moral weakness'^{96(p.152)} and enables patients to attribute some of their cause of depressive symptoms to be biological in nature. Redefining or medicalising depression was seen as acceptable⁹⁵ by patients and provided some relief,⁹⁶ as it enabled patients to construct their illness in biological terms:

Patients and supporters welcomed clarification of their experiences and the provision of a way forwards; and some willingly accepted (or already held) a biochemical explanation for depression.^{95(p.e6)}

This facilitated the process for GPs to initiate antidepressant treatment as a means of managing depression^{94,95}:

"I tell them...you know...I tell them it's a genuine illness, usually caused by an upset in transmitters in the brain, and I'm usually suggesting tablets which will...the object of which is to restore the balance of the chemicals in the brain. [I choose this explanation] Because I think a lot of people find it more acceptable to look on it as a...physical biochemical illness rather than a personality defect." (GP12, 49-year-old white male)⁹⁵

As patients are given a medicalised view of depression by their GP, this may mean that patients have justification for starting treatment and a need for antidepressants to manage their symptoms.⁹⁴ However, other research suggests that patients do not necessarily go and see the GP to obtain a medicalised view of depression, but go 'because they constituted the only source of help that seemed accessible at a particular moment in time'^{98(p.324)}:

"It was a general feeling of decline and to the point where I did go and see him [the GP] I was emotionally right at rock bottom, you know? I needed to go and speak to him, to somebody and see if something could be done." (Patient 2)⁹⁸

While some GPs believe that depression is a biological condition and feel that antidepressant treatment is justified,⁹⁴ other research⁹³ suggests some GPs believe that patients are better off without medication and that self-management with alternative methods is preferable.⁹⁵ However, even though GPs may feel that psychosocial factors primarily cause depression, they may have no

option but to provide antidepressant treatment to patients due to limited opportunities to refer patients to psychological therapy or other non-medical services:

One frequently cited reason for the favouring of antidepressants was the inadequacy or unavailability of alternative treatments, but it was also clear that when such help was available patients were likely to reject social and psychological interventions in favour of long-term pharmacological solutions.^{94(p.e151)}

When describing the medicalisation of depression and treatment options, GPs would allude to other physical conditions that could easily be measured and treated using pharmacological medicines. Comparing depressive illness to other medical illnesses suggests that GPs may want to treat psychological symptoms by pharmacological means; but on the other hand, find it difficult to prescribe treatment due to the individual nature of depression:

"I don't think it's right to prescribe something that they don't necessarily need, so we prescribe for social issues, but should we prescribe...lifestyle drugs? I don't think we should...But it's difficult when you can't measure an outcome. If someone has high blood pressure I can measure that and it's a definite." (GP 6)⁹⁴

"In emotional medicine, you are much more predisposed to the individual patient. In cardiology where essentially every patient comes into the sausage factory and gets an aspirin and a beta-blocker and an ACE inhibitor and they all come out at the other end, you can't do that with the emotional illness." (GP 7)⁹⁴

Some patients believe that antidepressant use is warranted as they hold a more 'biological' belief that a chemical substance is needed to help them manage their depressive symptoms.^{94,112}

Patients who attribute depressive symptoms to ailing physical health may also feel that medical intervention is warranted more than social or psychological intervention.⁹⁴ This assumption was discussed by Verbeek-Heida and Mathot:

Continuing SSRI medication, we feel, has a tendency to give experienced users the idea that their condition is a chronic one: the condition probably cannot be cured, but can be managed by medication just like other chronic illnesses.^{92(p.141)}

However, contrary to their hypothesis, one study¹⁰⁶ found that a lower belief that depression had a biological cause predicted a positive response to paroxetine treatment. The interpretation of these findings by the study's authors was that individuals with minor depression or dysthymia did not need to believe their illness was biological in nature to respond to antidepressant treatment.

The authors suggest that: ‘endorsement of these beliefs might be associated with poor medication response in that they imply passive or fatalistic attitudes towards depression.’^{106(p.29)}

The findings suggest that GP and patient beliefs around the origin and subsequent treatment for depression are uncertain, complex, and include psychosocial and biological factors. Some GPs provide patients with a more biomedical model to facilitate antidepressant prescribing. Irrespective of their views about the causes of depression, GPs often feel antidepressants may provide symptom relief as a quick and relatively cheap treatment option to provide to patients as opposed to the need to refer patients to psychological therapies that may be difficult to access due to limited resources and long waiting lists:

“If the cause is a social factor I can’t get rid of that...but I might alleviate their symptoms a little bit.” (GP 5)⁹⁴

“If it makes them feel even a bit better it’s worth it. Because at the end of the day a lot of them don’t cost a huge amount, they are quite cheap.” (GP 8)⁹⁴

However, as illustrated by the views of Nolan and Badger, GPs need to ‘be cautious when providing categorical explanations for depression in order not to mislead; in most cases, its origins are multifactorial.’^{96(p.152)} GPs need to explore patients’ different beliefs about depression and establish how this may influence subsequent treatment decisions.

2.4.6 The role of antidepressants in managing depression

My interpretations of the findings presented in the literature are that patients’ perceptions of the causes of depression may influence subsequent goals for the ongoing management of their depression, particularly around using antidepressant treatment.

More pessimistic views about the chronicity and curability of depression, and stronger beliefs in the helpfulness of antidepressants seem likely to act as barriers to discontinuation and predict longer courses of treatment.^{51,65,94,105,113} As outlined above, patients may receive a biomedical explanation of what has caused their depression during the initial consultation. Patients may also receive an explanation as to how antidepressants (namely selective serotonin reuptake inhibitors (SSRIs)) work, further justifying the need for antidepressant treatment.⁹²

2.4.6.1 Therapeutic maintenance and stability

As well as the need for antidepressants to manage such a chemical imbalance,⁹² the literature suggests that patients take antidepressants to either get rid of their symptoms of depression^{94,95}; or manage their symptoms on a day-to-day basis. Continued use may be justified to manage

ongoing symptoms, as some quantitative findings¹⁰⁸ identified that on average at least four symptoms of depression were present, while on treatment, during a three-year follow-up with patients. These included cognitive problems, lack of energy, sleep problems, and depressed mood/diminished interest present at least 58-66% of the time. In addition, Gilchrist and Gunn's¹¹³ review of observational studies of depression in primary care included studies that identified relapse rates of 30% in one sample and 25% of patients developing chronic depression in another, which further suggests the need for continued treatment in some individuals.

'Therapeutic maintenance' (defined as an 'active situation, where the repeated prescription is based on appraisal of the risks and benefits of continuation'^{94(p.e150)}) is an important concept for many patients and is a reason for them to continue treatment. In a qualitative study with older patients, when asked by the interviewer how they would feel if a GP suggested discontinuing antidepressants, one participant replied:

"P: 'I would be disappointed. I feel it's one that suits me and I'd be reluctant either to change or stop it.'

I: 'Would you have any questions for your GP after this interview about the medication?'

P: 'No, I don't think so. As I say I'm reasonably happy with taking the...well very happy with taking the drug; it seems to be working and unless I suddenly get an attack of depression, I don't think I would mention it to the GP.'" (Patient 17)⁹⁴

This extract shows that even though the patient had taken part in the study, which in turn may have allowed him to consider his antidepressant use, he had some dependence on his medication as it kept him happy.

Risk factors for recurrent depression include psychosocial difficulties, including higher levels of anxiety, greater social dysfunction, low coping ability, low self-worth and self-efficacy to manage and control one's life.¹⁰⁴ This suggests that while antidepressants may help manage depressive symptoms, they may not be as effective in helping patients cope with their overall feeling of psychological wellbeing and social situations. Further evidence suggests that patient beliefs that depression will get better over time and beliefs in developing and maintaining a supportive social network⁵¹ predict shorter antidepressant treatment duration. It may be that patients holding the belief of a chemical imbalance in the brain perceive that they can use antidepressants to manage their everyday lives and problems, and therefore be less interested in tackling their psychosocial circumstances using psychological therapies or alternative strategies.

However, a study of 992 patients who had been on antidepressant treatment found that only 23.7% reported that their depression was controlled entirely by antidepressants,¹⁰² which suggests a need for patients to look for alternative strategies to control their depressive symptoms.^{28,65} While uncertainty about the benefits of treatment may lead patients to consider discontinuing antidepressant use,¹⁰⁰ a lack of access to psychological therapies⁹⁴ to help cope with and manage their symptoms may lead a patient to continue medical treatment.³⁵

2.4.6.2 The impact of antidepressants on the sense of self

Patients may try to give psychological, physical, and pragmatic reasons to try and rationalise conflicting thoughts about the continued use of medication and its impact on their self-concept (how a person thinks about, evaluates, and perceives themselves¹²²).⁹² One qualitative study found that patients had concerns about taking antidepressants, viewing them as *“unnatural”, “chemical”, or “foreign to the body”*,^{93(p.5)} which may have further implications for the impact of antidepressant use on ‘harm to one’s self-image’,^{92(p.140)} and could provide some motivation to discontinue treatment.

One potential area of concern for patients was that while continued antidepressant use was helpful,^{92,99} they felt it took away a sense of personal responsibility⁹⁶ and self-control over their depression.^{96,99} Given that antidepressant use may take away a sense of agency, some patients may be motivated to discontinue treatment to no longer be reliant on medication,⁹⁶ and also to understand that they are truly recovered from their depression and to cope without the need for treatment^{93,96}:

“I have got a very strong drive to be healthy again. Taking medication has the same meaning to me as it had at the time. Although I am feeling well, there is still something in my head telling me that only when I discontinue my medication, I am really well again.” (Patient, female, 32 years)⁹³

Some patients may also feel that side effects are a factor that influences whether to stop or continue use. Patients on long-term antidepressants reported gastrointestinal complaints, weight gain, and decreased libido.¹⁰³ These side effects, particularly weight gain and decreased libido, may lead to individuals having lower levels of self-esteem and poorer social functioning, which in turn could act as motivation to discontinue antidepressant use. However, what is interesting to note is that despite the evidence suggesting that patients believe relationship problems to be a cause of depression,^{43,105} other evidence suggests that

patients are willing to continue medication despite the fact there may be unwanted side effects that can in turn impact on interpersonal relationships:

"I found side effects, especially a reduction of my sex drive, very bothersome. It may sound strange, but I would rather have a life without depression than a life with a sex drive." (Patient, male, 60 years)⁹³

Some patients who had tried to stop antidepressants in the past^{92,93,96} held the view that antidepressants were addictive and difficult to stop, based on their own experience:

"I think it is addictive because you have to start and discontinue really slowly. You can also really feel it when you discontinue. I find it quite scary, I dislike it, but should not think about it too much. That is why I try to take as little as possible, because I think "just imagine that it is addictive". It just does not feel right." (Patient, female, 49 years)⁹³

"It was my body...was reacting, not how I expected it to react. It had the shakes...um...bit like a junkie." (Participant 13: 43-year-old female)³⁶

These allusions to being addicted to medication may further deprive individuals of their perceived control over the management of their depression as they believe they need antidepressants to cope. As such, a perceived lack of control may lead to lower feelings of self-worth and worse mental health.

Moreover, some GPs may hold the belief that patients could become psychologically dependent on antidepressants irrespective of their function, which, if conveyed, could give patients a further reason to believe that antidepressants are 'addictive' and stopping their use is difficult:

"Patients obviously received antidepressants when they were experiencing a miserable time. Whether or not it is related to the antidepressant, they feel better again and link feeling better to having received antidepressants. Patients can sometimes feel very dependent of those tablets for their happiness." (GP, female, 50 years)⁹³

Even if patients had not previously tried to stop antidepressants, they still held the fear that antidepressants were addictive^{92,96} and believed that they were difficult to stop based on reports in the media. The notion that antidepressants are addictive may result in contrasting beliefs between patients: that they have less control of their depression treatment regimen, which may act as a driver to discontinue use; or that addiction to antidepressants may make them less able to stop. These views may affect how a person thinks about, evaluates, and perceives themselves regarding their ability to manage their depression, with or without

antidepressants. As such, the evidence suggests that uncertainty from both the patient and GP around antidepressant addiction may have some influence on the decision-making process:

More research is needed [...] into the subject of addiction and withdrawal effects, to support patients and doctors when both the patient and the doctor decide to stop the treatment.^{92(p.141)}

As well as negative perceptions of antidepressant use in the media, some patients were concerned about how significant others may view their antidepressant use:

"I am afraid how people might react." (Female, 38 years)⁹²

"I am afraid to lose friends, because when you start telling you take a risk that they say adieu." (Male, 40 years)⁹²

Patients felt that even though GPs had provided a medical explanation for depression, others may not view depression in the same way:

"When you have an operation you have friends who you can talk to. Last year, I had an accident and I received 45 get-well cards, but you go down with depression and nobody knocks on your door." (Female, 35 years old)⁹⁶

Individuals' self-esteem may be affected if they perceive that those in their social network view antidepressant use as unfavourable. Higher levels of social support reduce the risk of recurrence of depression¹⁰⁴; therefore, patients may not wish to disclose that they are using antidepressants with individuals in their social network,⁹⁹ due to the belief that there is some stigma around depression⁹⁶ and the use of antidepressants.^{92,96} This, in turn, may prevent individuals from seeking psychosocial support from others in their network and continue to take antidepressants^{96,97}:

The stigma that surrounds emotional, psychological, and mental health problems can frame people's reactions to their illness, and influence whether they seek help, whether they accept or reject advice and whether they adhere to a prescribed regimen.^{96(p.152)}

Conversely, other patients discussed concerns about stopping treatment as the process may have an impact on those around them:

"In general the responsibility you do have for your family...so even if I wanted to discontinue, it does not only affect me but also my environment...that makes my decision extra difficult." (Patient, male, 50 years)⁹³

The findings suggest that patients may face uncertainty when deciding whether to stop or continue antidepressants. On the one hand, taking antidepressants may be perceived negatively, both from the view of the individual and by their social network, which may act as a driver to discontinue use. On the other hand, people may feel that continued use may be necessary as they did not want their social network to be negatively affected during the process.

2.4.7 Knowing when and how to stop antidepressants

While some patients described the benefits of antidepressant treatment, others expressed uncertainty about how effective antidepressants were in managing their depression.³⁶

Uncertainty around the necessity and benefit of antidepressants may lead patients to consider whether they could discontinue their use.

2.4.7.1 The concept of feeling better

Some participants feel motivated to stop taking antidepressants because they are feeling better and would prefer to be off their medication:

"I had been well for a long time. Then I was thinking why...I could try to discontinue, it is poison anyway. You also don't take pain killers when you do not need them, so why continue taking antidepressants? Or let's put it differently, why not attempt to discontinue when you have been well for a long time?" (Patient, male, 54 years).⁹³

However, other qualitative studies^{36,92} that explored patients' views on discontinuing long-term antidepressant use described the concept that patients often find it difficult to know whether discontinuing antidepressant use is warranted because they are unsure as to why they are feeling better:

"I can't categorically say yes I feel better with them, you know, I mean, I've been taking now for, I suppose, a couple of years, so um, sometimes...you think, well, are they doing you good or is it...I don't know." (Participant 5: 57-year-old male)³⁶

Even when patients reported that antidepressants provided some relief, some were unsure to what level of 'happiness' they were meant to expect:

"I definitely wouldn't have said it ever made me feel bright, breezy and happy. It never gave me that feeling but I think it just allowed me to tick over." (48-year-old female)³⁶

Leydon et al.³⁶ provided this interpretation of their findings:

Most who had experienced an improved mood were unsure whether improvements should be attributed to the “*placebo effect*” (Participant 5), “*psychological therapies*” (Participant 3), “*changing life circumstances*” (Participant 11) or simply the “*passage of time*” (Participant 15). Uncertainty about whether SSRI medication continued to sustain such improvements also led some to question their continued need for medication.^(p.572)

It appears that while patients feel that antidepressant use may contribute to improvements in mood, other psychosocial factors cannot be discounted as a possible cause.

The uncertainty around how much the improvement in mood can be associated with antidepressants and the necessity and benefit of taking them may lead patients to experience other fears and uncertainties about whether to stop or continue treatment.^{36,92,93} The fact that patients feel better may lead them to feel that continued use is justified because they are ‘feeling good’⁹² while on the treatment and experience stability,⁹⁴ but on the other hand, patients may feel that they will only be back to normal once they have stopped taking medication. These views link back to how antidepressant use may affect patients’ self-identity, their construct of depression as a biological or psychological illness, and the role of antidepressants in managing their illness. Verbeek-Heida and Mathot propose that patients on long-term antidepressants will inevitably face uncertainty:

The dilemma is this: people felt normal with the medicines, but at the same time considered that they would only be normal (in the end) without the medicines.^{92(p.137)}

2.4.7.2 Fear of withdrawal and relapse

One issue of considerable concern to patients reported in the studies was the fear of experiencing negative symptoms when discontinuing antidepressant use, irrespective of whether they had tried to stop in the past or not.^{36,92,94} Patients feared they would experience withdrawal symptoms, which to some people would be worse than depressive symptoms, as described by one patient who had attempted to discontinue antidepressants before:

“In the end I didn’t know what was worse, um, having the...withdrawal effects from it or having the, um...depression side of it.” (Participant 3: 37-year-old female)³⁶

Findings from the qualitative studies^{36,92,94} suggest that previous experience with negative withdrawal symptoms may play a key role in patients’ decisions to continue treatment:

“...the major factor is the side effects of coming off them...I don’t think I take them to sustain my mood but purely just to stop the side effects. I’ll maybe just have to grin and bear it.” (Participant 4: 28-year-old female)³⁶

In addition to a fear of withdrawal, the literature suggests that patients also fear that they may relapse to their original depressed state:

“I’m frightened that I’ll go down again ... and I don’t want to go down like that, because I really was low, very, very low, um...yeah. I just don’t ever want to go there again.”
(Participant 9: 58-year-old female)³⁶

“I don’t dare to stop, the fear that all will come back as it was before, so I don’t know what will happen, if I stop, I have no idea.” (Female, 57 years)⁹²

While these views were expressed by patients with no experience in stopping antidepressants, these fears were also reflected by those that had attempted to discontinue:

“I have tried to stop, I did foolishly, foolishly try to stop and I just stopped taking them. That was a mistake, big mistake. I didn’t turn into a blubbing mess straight away, it was about four or five days afterwards.” (Participant 15: 48-year-old male)³⁶

2.4.7.3 The process of discontinuation

As well as having uncertainties as to whether patients could try to discontinue antidepressant treatment due to improvements in mood, patients may also be uncertain about the process of discontinuation and how to do so safely and successfully.^{36,92,93}

“I’ve just no idea what it would involve that’s why I’m frightened to come off them...I don’t know what I’d be like without it so...What if I do come off them and what if I’m worse?” (60-year-old female)³⁶

Some patients who had not gone through the process felt that it was ‘simply as an inconvenience to be tackled by tapering the dose more gradually.’^{36(p.572)} This finding supports the notion that lived experiences of discontinuing antidepressants may have a greater impact on consequent decisions to stop or continue treatment than those who have not tried to stop before.

2.4.8 The importance of GP monitoring and reviews of the need for treatment

Whether patients are motivated to discontinue antidepressants ‘to see what would happen’^{92(p.138)} or wish to continue, it appears that most would prefer to go through the

process with the support from their GP.^{92,93,96} However, as with the other synthesising arguments, uncertainty is apparent around the importance of ongoing monitoring and review of the need for treatment.

Patients feel that consultations with the GP are beneficial to receive information, reassurance, and ongoing support during the tapering process. Some GPs discussed eventually discontinuing at the start of the patient's treatment journey, informing them that tapering would need to be carried out with support,^{36,94} and other practical information, such as discontinuing during the springtime⁹⁴ and whether new evidence came to light about the potential harms of taking antidepressants long-term.⁹² Sharing of information by GPs, particularly around the gradual process of tapering in order to minimise withdrawal symptoms and the possibility of increasing the dose should there be difficulties, provides reassurance to patients:

"I didn't have to worry because I didn't have to feel bad because I could just up the tablets slightly so I had that, which was a bit of a cushion I suppose." (Participant 7: 41-year-old female).³⁶

2.4.8.1 Using guidelines to inform monitoring and review

Some GPs view guidelines for depression management as *"awfully mechanical"* (GP5)⁹⁵ yet hold some uncertainty around the process of monitoring patients on antidepressant treatment, including what the process involves,⁹⁶ who is responsible for monitoring,⁹³ and how frequently review consultations should be carried out.^{25,96}

Nolan and Badger's study⁹⁶ found that the meaning of monitoring differs between GPs, which in turn may have different connotations for patients. Some patients in the study stated that they had a treatment and monitoring plan established at the initial consultation, whereas others just assumed that their treatment was being monitored and the GP would ask them for review if necessary. This suggests that patients' understanding of monitoring appears to be dependent on the information provided to them by the GP:

The GPs seen by respondents participating in this study had different schedules for monitoring consultations. Although all the responses appeared to accept that whatever was suggested in their case was best, there is clearly a need to establish what frequency of visits leads to the best outcomes in terms of speed of recovery and concordance with medication regimes.^{96(p.152)}

Other studies^{65,96} suggest that the information provided by GPs to patients regarding the importance of ongoing monitoring is vague and inconsistent, which is further supported by

the findings in another qualitative study⁹² that found that GPs use different prescribing guidelines for patients presenting with depression. Another qualitative study⁹³ that included dyads of patients and GPs who were asked about antidepressant use found that even though appointments were held to discuss it, the policies around long-term use and continuation varied largely. Some patients saw their GP specifically for a review multiple times in one year, and others reviewing their antidepressant use only when they saw their GP for another condition.

In addition to differences in the meaning of monitoring patients with depression between patients and GPs,⁹⁶ other research⁹⁷ suggests that while there are key clinical guidelines available for GPs to help with the management of patients with depression, GPs may be resistant to follow these guidelines due to the individual nature of depression:

“I think guidelines are OK in as far as they go, but I think psychological problems are so individual that I don’t see how you can rigidly follow any guidelines or protocols.” (Male GP, 50s, town practice)⁹⁷

Another GP from the same study acknowledged that producing guidelines that are universally acceptable to patients would be complicated, but the provision of a guideline may be helpful as a starting point for GPs to treat and manage depression:

“I suspect with depression, it’s one of these things that there’s so much variation, it might be quite difficult to run an effective protocol for it, but as an indicator of the way in which you might start off thinking, it might be quite useful.” (Female GP, 30s, town practice)⁹⁷

One study¹⁰⁰ found that the majority of GPs consider guidelines for antidepressant treatment to be of great importance and suggested that GPs try to consider guidelines when managing patients with depression. However, it is unclear how informative current guidance is for GPs in providing information to support patients in successfully discontinuing antidepressant treatment. This is reflected in the views of GPs in a qualitative study⁹³ where they felt that monitoring advice and subsequent tapering schedules should be readily available to help with the process:

“What you tend to regularly do is check the treatment guidelines, also when you are prescribing medication. A heading ‘discontinuation: what do you need to do?’ could for example be included. I did not check, but do not think that currently exists.” (GP, female, 41 years)⁹³

These findings suggest that patients may be receiving conflicting advice between GPs regarding the length of use, which leads patients to feel further uncertainty about their need to continue antidepressants or whether they could try to stop:

“And then I think, what to believe, what to do?” (Female, 63 years old).⁹²

2.4.8.2 The importance of the review consultation

Uncertainty around how patients on long-term antidepressant use should be monitored in primary care may mean that patients are not given a clear message about monitoring and the importance of reviews. This may lead the patient to feel uncertain about the need to see their GP for a review of their antidepressant treatment and reduce opportunities for patients to discuss the need for continued use, or whether antidepressants could be discontinued.^{35,36,93,94,98} This is reflected by one participant who wanted to try to discontinue antidepressants but did not feel they had an opportunity to discuss this matter with a GP:

“I don’t know if they’re any good to me anymore but they’re certainly not letting me come off them. And I want to come off them and no-one will help me, and I don’t know what the effects will be if I come off them myself cause nobody will tell me.” (Participant 13: 43-year-old female)³⁶

Nolan and Badger⁹⁶ argued that ongoing monitoring and review might lead to better outcomes for patients in terms of faster recovery from depression and providing the most appropriate medical treatment. This suggestion is supported by the quantitative literature included in the synthesis; particularly in Johnson et al.’s²⁸ study that evaluated the prescribing and management of a large sample of primary care patients in receipt of antidepressants for over two years. The study found that having antidepressant review consultations lead to up to just over a quarter of patients (28.5%) having a change in their antidepressant therapy, with seven percent of patients stopping antidepressants completely and a further 12.8% reducing their dose. However, while the findings suggest that having antidepressant review consultations may reduce drug burden, there are some methodological limitations to how the study was conducted, as GPs were asked to invite patients to attend review but did not have to invite all patients on long-term antidepressants systematically. The authors acknowledge the issues with this recruitment method, as it may have led GPs to select patients whom they thought idiosyncratically could benefit from a review of their antidepressant treatment. Furthermore, because of the aims of the trial, GPs may have felt more inclined to change patients’ treatment than during usual care.

However, another study²⁴ that conducted a review of medical records to determine the frequency of review consultations for patients in receipt of longer-term antidepressant prescriptions found

that patients having more antidepressant review consultations were more likely to have changes in antidepressant type and dose and further referral to community mental health teams. Still, Sinclair et al.²⁴ argue that it is not necessarily clear what was cause and effect, i.e. whether these findings imply that some patients are more regularly reviewed due to the complexity of their needs for changes in treatment, or that changes in treatment are an outcome of attending more review consultations.

Despite the evidence suggesting that having regular antidepressant review may be useful, to change the course of treatment and, in some cases, lead to a reduction in antidepressant dosage or prescribing; other evidence shows that the number of antidepressant review consultations tend to decrease in frequency over a 10-year period, to at best yearly review after three years.²⁵ One reason for this may be a lack of official guidance as to how frequently review consultations should be conducted after the acute stages of treatment,^{25,96,123} another reason may be down to uncertainty around who is responsible for ensuring patients have regular review.^{35,36,93,94,98}

*“I do think that the GP is responsible for his patient, and should therefore also take the initiative around antidepressant treatment. On the other hand, there is also a trend towards that you need to sort out yourself. I think that both patient and GP should be involved, but when you are depressed you haven’t got the opportunities nor the insight to do anything. So in that respect the GP should take the responsibility.” (Patient, female, 44 years).*⁹³

Some authors noted that patients would consider stopping treatment,^{36,94} but would need active support and guidance from their GP. However, this is not necessarily happening, as if GPs do not initiate contact to ask patients for review, patients may be passively accepting of their GPs decision to continue treatment.⁹⁸ As such, patients may feel that GPs are not concerned about stopping their current treatment and vice-versa.

From the GPs’ perspective, some reported that there was no need to follow-up patients if they were stable on medication, and that it is the responsibility of the patient to contact the GP should they experience a change in circumstances, or they wish to change or discontinue treatment.^{93,94} Moreover, participants in Nolan and Badger’s study⁹⁶ felt that being given

autonomy to monitor their progress and effects of medication helped to build self-esteem and enable a sense of control in managing their recovery:

“I felt involved by my GP and useful – to her and to me. I could do something. I felt as though I could provide information about the drugs and what effects they had and that might be useful for other people too.” (male, 54 years old)⁹⁶

Building patient self-esteem may then allow patients greater self-efficacy in monitoring their progress and a greater understanding of whether they could try to stop antidepressant treatment. However, giving a patient this autonomy to arrange review consultations may not be suitable, as while they should be responsible for their monitoring, they do not necessarily engage in the behaviour to organise a review consultation:

“LR: How often would you see your GP about it?”

P: I haven’t seen him for...my review date is...was last November, so I, I, they keep lining up, I must make an appointment to go and see him so that is down to me...They keep signing the form so I keep on doing it.” (Participant 6: 39-year-old male)³⁶

2.4.9 The role of the GP during monitoring and review

One limitation with quantitative research is that while it suggests that antidepressant review consultations may lead to a change or reduction in dose,^{24,95,107} it is not possible to determine how decisions to stop or continue treatment are made between the patient and the GP. There is some suggestion that patients in receipt of antidepressants have longer appointment lengths of 20 minutes or more,⁶⁵ however it is not clear from the evidence what is discussed during these longer consultations, in terms of the patients’ current symptoms, treatment, or management.^{93,100} There may be some factors associated with the GP that are present in the consultation that may have some influence on a patients’ decision whether to stop or continue treatment.

2.4.9.1 GPs’ views on the management of depression

While GPs generally have a positive attitude towards the treatment and monitoring of patients with depression (69% viewed it as more positive than negative in one study),¹⁰⁰ the level of confidence GPs have in managing these patients appears to have a greater impact on the decision whether to stop or continue use.^{95,100,101} The research suggests that most GPs feel more confident in managing depression with pharmacological means than psychological treatment.¹⁰¹ GPs that have completed training in mental health are more likely to have the attitude that patients with depression can be helped,¹⁰¹ and incorporating previous clinical experience and events from their

private life provides further positive influences and greater self-efficacy in managing these patients.¹⁰⁰ On the other hand, GPs who find treating depressed patients as stressful and unrewarding may identify greater obstacles in treating these patients, including a lack of time and available resources to provide psychological treatment.^{94,101} GPs with lower self-efficacy, and more negative attitudes towards managing patients' depression, may find it more challenging to discuss the possibility of discontinuing antidepressant treatment.

2.4.9.2 The GP as a therapist

While GPs may provide some biological explanations to patients about the cause of their depression^{95,96} and information about managing and treating depression,³⁶ they may also feel the additional need to provide a therapeutic and listening ear.^{36,95-98} Providing therapeutic support may give patients the perception that they can discuss their current situation and options for treatment. As GPs felt that guidelines for depression management were mechanical,⁹⁵ they felt the need to create their own style of talking therapy^{95,97} in order to talk to patients about their problems:

"I try to sound sympathetic and perhaps suggest some strategies for them to help, or maybe refer them to other people, say if they've got debt, and I sometimes get them to prepare a plan for things and if their depression seems to be related to specific causes, I'd ask them to make a simple list of things they could do something about and things that they can't and see if I can help them chip away at some of these things. [...] It's probably something I've developed myself. As I say I'm not sure what other people do but that's what I do. I sometimes think I'm in a better position to have an overview of things and help chip away at things over time. That's basically what I do, but I don't know what it's called, if it's called something, I don't know." (Male, 40s, town practice)⁹⁷

Despite the uncertainty of exactly what care they were providing, GPs found the provision of a listening ear to be rewarding:

"It's something that I've learnt that I can do and that I get probably more satisfaction from than any other aspect of the job...you really can turn somebody's life around. There's a point in a lot of that type of consultation where I feel such a depth of intimacy, such a contact going on and if I get that feeling, I love that, I really do and it feels crucial, it's a turning point for the patient when that happens and once that that's happened, I know that they're safe." (GP3, 45year-old white female).⁹⁵

Qualitative findings suggest that both patients and GPs find review consultations beneficial,^{36,95,96}

as it would allow for patients to explore how they were feeling:

As one person stated, “[it] was evident that the GP was interested in how you were progressing”, and being asked how you were doing “made you think about your life in general and to what extent you were improving”.⁹⁶

The literature also highlights how patients value a good relationship with their doctor, and being able to discuss their uncertainties and concerns with a GP who is willing to listen and give them time.^{35,95,98} Patients ‘who described themselves as ‘well monitored’ referred to the benefit of sharing decisions about treatment.’^{36(p.573)} Patients felt able to discuss current issues that were affecting treatment for their mood,⁹⁵ manage uncertainty about the necessity of staying on antidepressants,⁹⁶ and make decisions about whether to stop or continue treatment.³⁶

Patient experiences also highlight the idea that a lack of a listening ear may be detrimental to patients. One patient stated that previous experiences with a doctor in monitoring and managing depression was negative:

“I’ve got one of those rare things, a doctor that listens to me. I had a beauty before that...as you walked through the door he wrote a prescription out.” (Patient 27)⁹⁸

However, some patients still believe that GP involvement is crucial, and that a lack of monitoring may mean that patients feel unsupported by their doctor and lack the confidence to initiate discussion about discontinuing antidepressants with their GP.³⁶

By not listening to patients and discussing their beliefs around the need for antidepressants, GPs may miss opportunities to initiate conversations around discontinuation,⁹⁶ or patients may not have the opportunity³⁶ nor the confidence to bring it up in conversation:

“I think I’m just constantly surprised throughout my practice is that er...that people come back and just say, actually...having the consultation, being able to share it, etcetera, was...all I needed, so, and I, I think, we underestimate the power, we end up by prescribing when we may not need to.” (GP30, 53-year-old white male)⁹⁶

Deciding whether to stop or continue long-term antidepressant use may further be influenced by the level of continuity of care that a patient can have during their treatment.^{36,92,96,102} Patients value an ongoing relationship with their GP as it builds a level of trust,⁹⁶ making it easier for the patient to ask questions or express concerns,¹⁰² and facilitates the decision-making process of whether to stop or continue treatment.³⁶ Conversely, patients that are unable to see the same GP throughout their treatment may lead patients to “get the impression that no one is really bothered about you” (female, 55 years old),⁹⁶ as well

as receiving different information about the process of discontinuing antidepressants, which in turn may lead to unnecessary continuation.⁹²

GPs found reviewing patients with longer-term depression beneficial, as they felt they were able to use the time to provide support to the patient,^{95,96} which in turn could help the patient feel better:

"I think some of my partners will give a prescription, say oh you know, there we are, this will make you feel better and they don't, they don't want to get involved or follow the patients up. I feel that, you know, part of them getting better is actually to provide support and let them feel that there's someone there that actually is bothered about how they're feeling." (GP10, 44-year old white female)⁹⁵

2.4.9.3 Time constraints

An additional barrier for patients to have antidepressant review consultations is the lack of time that GPs may have to see the patient. While giving patients time to talk about their symptoms and treatment was seen as highly therapeutic and beneficial for the patient,^{36,95} patients acknowledged that this may not always be possible due to the limitations of having a 10 minute appointment^{96,97}:

"I think that is the problem...It's the fact that not being able to talk to the GP or the GP not being able to talk, talk to them properly in the first place. Mainly because they've got this sort of 10-minute sort of thing or system, or whatever you want to, appointment system, haven't you." (Participant0450155[1], 46-year-old white male, recurrent depression)⁹⁵

"...you know, sometimes when you go in you just feel the impression that they're wanting you straight out the door, or they're writing out a prescription for something...silly and, and just wanting rid of you." (Participant04401, 27-year old white female, recurrent depression)⁹⁵

As a result, some patients felt that the lack of time meant they would not have an opportunity to discuss their issues with their GP in depth^{35,96-98}:

'[...]my feeling with general practice is that they don't have time. It's always, you know, two appointments behind. So you, so I always feel that I'm rushed through. I would prefer not, not to bother to be perfectly honest.' (Supporter0450457[2], 40-year-old white male, depressed in the past)⁹⁶

It was not just patients that reported issues with time constraints that led to unsatisfactory outcomes after consultations. One study¹⁰¹ found that GPs who believed that seeing patients with depression was 'stressful' and 'heavy going' identified practice and organisational barriers to managing depression (which included a factor of 'inadequate time').

Therefore, patients may be reluctant to discuss discontinuing antidepressant treatment, as the perceived lack of time and interest may make the patient feel that they are not able to open up.^{35,95} Fosgerau and Davidsen's⁹⁹ study of the interaction between the patient and GP in consultations for antidepressant treatment found that GPs were not often forthcoming in getting patients to open up about their perspectives on their ongoing treatment. Patients may not receive adequate 'education about the therapeutic plan, particularly the need for monitoring therapeutic response and adjusting the medication regimen',^{102(p.1899)} if patients do not feel they have the space to do so. GPs need to have a strong level of confidence in communicating with patients on long-term antidepressants to be able to persuade them (if appropriate) to stop in the future; if not, patients may feel more inclined to continue.⁹⁴

2.5 Conclusions

2.5.1 Summary of findings and comparisons with existing literature

My synthesis of the findings from the existing literature suggests that several factors may influence whether patients decide to continue or discontinue long-term antidepressant treatment, which can be conceptualised as five synthesising arguments. The synthetic construct of uncertainty is evident throughout my interpretation of the studies included in the synthesis. It suggests that the decision to continue or stop long-term antidepressant use for depression is a complex process with issues that may be of concern or difficult for patients to understand.

The construct of depression is unique to each individual and is shaped by a patient's understanding and views of the causes and nature of depression – whether psychosocial factors cause it, whether it can be explained biomedically, or whether it is a combination of both.^{43,51,65,93,95,98,103,105,113} Patient uncertainty around their construct of depression may make it difficult for them to know what the most appropriate method of treatment is. While antidepressants are readily identified as a treatment option, neither patients nor GPs are entirely sure of the role of long-term antidepressant use in managing depression. Doubts around the necessity of antidepressants and perceived risks of discontinuing their use may cause further difficulties for patients when deciding whether to stop or continue treatment.^{36,92-94}

The literature suggests that the GP plays a central role in helping patients decide whether to stop or continue treatment.^{25,36,92-94,96} Having regular reviews to monitor patients' antidepressant use provides an environment for patients to discuss their beliefs about their depression and antidepressant use, along with their fears, concerns, and uncertainties about the process and potential consequences of stopping treatment.^{35,36,93,94,98} For patients and GPs to decide whether to stop or continue treatment may be influenced by the GP's confidence in their ability to listen to the patient's fears and concerns effectively and consequently provide information and support based on these discussions. A concept-mapping study¹¹⁹ identified six topics that both patients and practitioners felt should be discussed during consultations to enhance shared decision-making around antidepressant discontinuation: the process of discontinuation, expectations, professional guidance, current use, environment, and side-effects. These concepts are echoed in the findings of my synthesis and suggest that discussion around these topics between the GP and patient may help manage uncertainty and facilitate patients' decisions to stop or continue treatment.

Furthermore, a recent qualitative study¹¹⁶ of participants that took part in an RCT to discontinue antidepressants found that fear was a major barrier to stopping treatment. Participants felt greater motivation to discontinue use by receiving continuous support and reassurance from their GP. This highlights the importance of the role of the GP in a patients' decision to stop or continue antidepressant treatment.

My interpretation of the findings from the existing literature are in line with those reported in Maund et al.'s³⁸ thematic synthesis, which identified numerous complex barriers and facilitators to discontinuing antidepressant use, including patient beliefs around depression and antidepressants, the influence of significant others and GPs in providing support and guidance, and fears. My synthesis further highlights the uncertainties around patients' decisions to stop or continue treatment, and expands on the thematic synthesis by integrating quantitative evidence and suggesting the additional uncertainties that health professionals may have around the process of discontinuation, and how to provide appropriate support and guidance to patients. A narrative review¹²⁴ published in May 2020 identified similar findings to my CIS, and also highlights uncertainty patients face around all decisions around long-term antidepressant discontinuation.

Regarding depression guidelines, the findings suggest that GPs may find the process of discontinuation easier if guidance was consistent and readily available.^{92,93,97,100} Research has identified varying lengths of recommended treatment, from six to 12 months for the first depressive episode and from two years to as long as necessary for recurrent depression.¹²³ As well as the variation in the length of treatment recommendations, Hegarty et al.¹²³ suggest that GPs

face diagnostic uncertainty when patients present with depressive symptoms, leading to uncertainty around the appropriate management guidelines to adopt. The authors argue that this may be complicated further by the individual differences in patients, such as demographic or social risk factors, and comorbidities. These findings are reflected in the overarching synthetic construct of uncertainty within the synthesis. Despite guidelines mentioning the need for ongoing review and follow-up,¹²³ there appears to be little guidance as to how GPs may approach discussion around discontinuation with their patients.¹²⁵

2.5.2 Strengths and limitations

To date, this is the first review that has systematically integrated and synthesised studies using both quantitative and qualitative methodologies to develop a theoretical framework of how patients make the decision to stop or continue long-term antidepressant use for depression. The synthesis includes papers that are of sound methodological quality and use a wide range of methods to explore both GP and patient beliefs and attitudes towards depression and the role of antidepressants. However, there are some limitations. While CIS may be a useful approach for integrating and interpreting a diverse range of literature to develop a theoretical framework to explain a given phenomenon,⁷⁸ the methods for conducting a CIS are not explicitly outlined. The approach to collecting, interpreting, synthesising and appraising the literature using CIS methods is not as transparent or rigorous as conventional systematic reviewing methods.¹²⁶ It is possible that my findings may not have captured all the relevant literature, and subjectivity would inevitably have had some influence in my approach to choosing and prioritising particular studies in my synthesis. In line with the critical realist approach,⁵⁷ I acknowledge that it is impossible to eliminate subjective bias completely. I may have unknowingly prioritised studies that are more in line with my own interpretive frameworks and understanding of long-term antidepressant use, both as a researcher with a background in health psychology, and someone who has been on antidepressants for many years.

In addition to the methodological considerations highlighted in paragraph 2.4.3, there are further limitations. It may not be possible to generalise the findings to the whole population of patients who are not clinically indicated to continue treatment and could try to stop. The synthesising arguments in the CIS have been created using ‘interpretations of interpretations’^{72(p.35)} by the authors of the primary studies. The methodologies and methods used to collect and interpret the experiences of participants will have had some influence on how the findings were presented in the context of the research aims of the studies included in the synthesis,⁵⁸ and my interpretation of these interpretations will be subjective and may not necessarily represent what the patients’ ‘real’ experiences are. Essentially, my CIS is just one perspective of how patients decide to stop or

continue long-term antidepressant use, which may be partial, incomplete, and fallible.⁵⁴ However, I have attempted to be transparent and rigorous throughout the process of conducting and reporting my CIS to show how I created my theoretical understanding of this 'reality'. During the searching and selection of papers for the synthesis, I asked a Librarian to help with the initial database searches and asked TK to conduct secondary screening of the abstracts of potentially relevant papers. During the data extraction process, I used NVivo software to manage the coding and synthesis of the findings and interpretations of the primary studies, to ensure the constructs were grounded in the literature. During the analytic phase, I used the MMAT to critically appraise the methodological quality of the papers and discussed the development of synthetic constructs and the synthesising argument with my supervisory team. Finally, I have used illustrative quotes from the original studies to highlight how my interpretations are grounded in the original findings of the studies included in the synthesis.

2.5.3 Implications for practice and further research

As uncertainty is an overarching synthetic construct within all the synthesising arguments, it suggests that providing clear guidelines and information to both patients and GPs to support the decision-making process of stopping or continuing antidepressant use is warranted. By tackling these uncertainties, both patients and GPs may have greater confidence in understanding the role of antidepressants in managing depression, the importance of regular monitoring, and learning how to cope with withdrawal symptoms during the process of stopping antidepressants.

2.5.4 Implications for my PhD research

My synthesising argument suggests that patient beliefs and attitudes towards long-term depression and antidepressant use may play a role in their intentions to stop or continue treatment. I identified additional theoretical constructs that may also play a role, including patient self-efficacy in managing their depression, while the role of the GP in the monitoring and review of antidepressant treatment should also be considered. As uncertainty appears to feature within these constructs, exploring these constructs and how much they influence patients' intentions to stop or continue long-term antidepressant use should be explored. To do this, I felt that examining existing theoretical models of health behaviour and determining whether they can explain which factors are more influential in discontinuing long-term antidepressant use would be beneficial. The next chapter discusses theoretical models of health behaviour that could incorporate and empirically measure the constructs from my CIS, using questionnaire surveys.

Chapter 3 Models of health behaviour

3.1 Chapter overview

This chapter provides a brief overview and review of psychosocial models of health behaviour selected for use in developing a questionnaire to explore patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant use in primary care. I explain the models and briefly critique the strengths and limitations of the models in explaining health behaviours. I then conclude the chapter by suggesting how the models could be combined to create a new model that aims to predict intentions and behaviours towards long-term antidepressant discontinuation.

3.2 Theoretical models of health behaviour

My critical interpretive synthesis (CIS) (Chapter 2) suggests that various factors could influence patients' decisions to stop or continue long-term antidepressant use. The synthesising argument of *Patients representations and understanding of depression* and the literature⁴¹ suggests further research is needed to determine whether patient beliefs about depression predict subsequent behaviours to manage their illness. Another synthesising argument was *Knowing how and when to stop taking antidepressants*, which suggests that patients may consider the necessity of antidepressants and think about the process of discontinuation. However, patients may be uncertain about why they are feeling better and around the process of discontinuation. This may lead patients to develop particular attitudes and beliefs towards stopping antidepressants. A final synthesising argument to consider is *The importance of GP monitoring and reviews of the need for treatment*. This construct may be important as the views of the GP regarding long-term antidepressant use may have some influence on patients' decisions to stop or continue treatment.

According to Kerlinger:

A theory is a set of interrelated concepts/constructs, definitions, and propositions that present a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena.^{127(p.9)}

As concepts and constructs are based on theoretical assumptions as to why people carry out certain behaviours, these can be translated into observable variables to establish whether these assumptions can be operationally defined, an approach based on logical positivism.¹²⁸

Following this approach, assumptions around individuals' beliefs, attitudes and behaviours towards long-term antidepressant use can be made, based on findings from the existing literature. Mapping these assumptions onto existing models of health behaviour and measuring beliefs and attitudes towards long-term antidepressant use for depression could determine how well particular theoretical concepts can predict patients' intentions (and subsequent behaviour) to stop or continue treatment.

Social cognition models have been used within health psychology research to examine predictors of behaviour and behaviour change. Social cognition theory suggests our behaviour is governed by expectancies, incentives, and social cognition,¹²⁹ which reflect individuals' beliefs and representations of their social world.¹³⁰ There are several social cognition models, such as the Health Belief Model (HBM),¹³¹ which predicts preventative health behaviours and behavioural responses to treatment; Protection Motivation Theory (PMT)¹³² that considers threat- and coping-appraisal processes; and the Theory of Planned Behaviour (TPB).⁶⁰

3.3 The Theory of Planned Behaviour

The TPB is a psychosocial model of health behaviour that extends the Theory of Reasoned Action (TRA) model.¹³³ The TRA suggests that attitudinal and normative beliefs will predict intentions to carry out a specific behaviour, and greater beliefs will increase the intentions towards and likelihood of a behaviour being performed. Intention is considered to be a fundamental predictor of behaviour, and is defined as an individual's instruction, desire, and motivation to perform a specific behaviour.^{134,135}

However, the TRA suggests that only volitional intentions will predict the likelihood of a behaviour being performed. It does not consider factors beyond an individual's control that may compromise their ability to create intentions or perform a specific behaviour.¹³⁶ Therefore, the TRA was modified to include an additional construct of perceived behavioural control (PBC), which may directly affect behaviour as well as intention,⁶⁰ as increased perceptions of control will increase a person's willingness to carry out a behaviour, without taking attitudinal and normative beliefs into account.¹³⁷ Figure 3.1 illustrates the TPB.

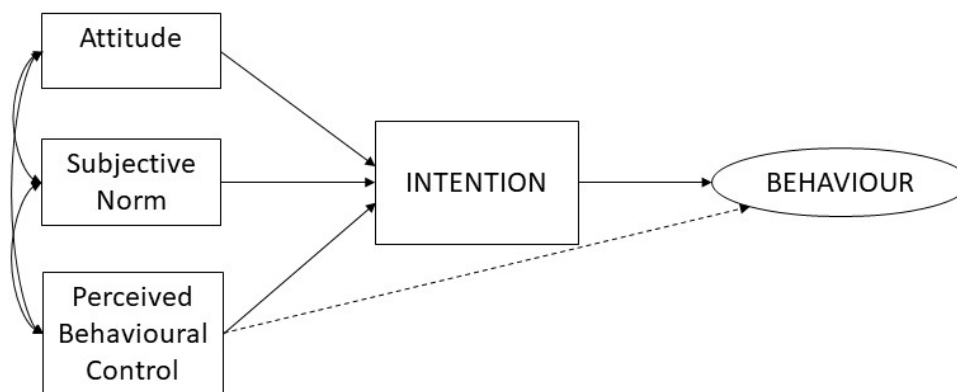


Figure 3.1 The Theory of Planned Behaviour

In order to predict an individual's intention to carry out a behaviour, three predictors need to be measured:

- Attitude: whether the individual approves of the behaviour.
- Subjective norm: whether the individual feels pressure from society to carry out the behaviour.
- PBC: the amount an individual feels they are in control of carrying out the behaviour.

The TPB stipulates that more positive attitudes, higher normative expectations or expectations of significant others, and greater PBC predict stronger intentions and likelihood to carry out a behaviour. The importance of each of the constructs of the TPB in predicting intentions and behaviour is relative to the situation being explored.^{60,138} Therefore, it would be useful to see whether attitudinal beliefs, normative beliefs, or control beliefs play a more significant role in predicting long-term antidepressant users' intentions to stop or continue treatment. The TPB further suggests that both intention and PBC towards a behaviour are the proximal predictors of behaviour, meaning that both these constructs will have a direct effect on an individual's behaviour (the outcome).¹³⁹ This aspect of the model was seen as an important contribution towards creating a better understanding of the behaviour-attitude relationship.¹³⁸

The PhD aims to determine which psychosocial factors will predict patients' intentions to stop antidepressant treatment within six months of completing the questionnaire. The behaviour will be determined through examining patients' records of attending a review consultation with their GP for their depression, looking for a record of cessation, or a change in the dosage, of their antidepressant medication. A period of six months has been chosen to fit in with the National Institute for Health and Care Excellence (NICE) guidelines'⁶ recommendation to review patients' treatment after six months. Therefore, all items based on the TPB will be about the behaviour of discontinuing antidepressant treatment within the next six months.

The TPB is a model that has had a notable impact within health behaviour research. However, while the items based on the constructs of the TPB are useful as a tool to measure behavioural, normative, and control beliefs about long-term antidepressant use and subsequent intentions to stop treatment, there are some limitations. One key theoretical issue with the TPB model is the 'intention-behaviour gap', meaning the model does not explain or explore the mediating factors that may influence whether individuals' intentions towards a behaviour are in fact carried out or not.^{135,138,140} The TPB has also been criticised as it does not consider other concepts that may influence behaviour, for example, fear, current mood, past experience, and socioeconomic factors.¹⁴¹ It appears that the theory is no longer sufficient as a standalone model; but instead should be used as an initial framework, extended, and then used to examine and explain health behaviour.^{142,143} One way psychologists have tackled these limitations of the model is to use extended forms of the TPB by adding constructs to explain how behavioural intentions may predict actual behaviour.^{130,141,144}

One construct that could be considered as an extension to the TPB is salient beliefs.¹⁴³ The TPB suggests that underlying salient beliefs determine attitudes.¹⁴⁵ An individual may have many beliefs about a behaviour; however, only some of these beliefs will be salient at a particular time.¹⁴³ Findings from my CIS suggest that patients have several beliefs about the role of long-term antidepressants in managing their depression. It would be worthwhile to see whether salient beliefs about antidepressants influence patients' attitudes (and subsequent intentions) towards stopping long-term antidepressant use.

Two conceptual models that could be considered within salient beliefs are the Necessity-Concerns Framework (NCF)¹⁴⁶ and Deprescribing theory.⁶² The following sections discuss these conceptual models in more detail.

3.4 The Necessity Concerns Framework

The NCF has been used to illustrate how patients' beliefs about a particular treatment influence the likelihood of adherence to and engagement with this treatment. Necessity beliefs for a medication are patients' perceptions of a personal need of the treatment, with a greater perceived need assumed to correlate with higher adherence.⁶¹ Conversely, concerns are defined as beliefs about unpleasant side effects, disruption to daily life, risk of dependence, or the development of long-term effects.¹⁴⁷ The NCF has illustrated that necessity and concerns beliefs play an important role in treatment adherence or non-adherence in multiple health conditions,^{61,148} and changes to medication adherence may be altered by changing an individual's beliefs.¹⁴⁷

Regarding antidepressants, a study⁴⁷ investigating adherence to maintenance-phase antidepressant treatment (continued antidepressant use for at least six months after remission of symptoms) found that adherence was highest when patients perceived a greater need for antidepressants and had fewer concerns about taking the medication. Adherence was poorer when the concerns of taking antidepressants exceeded the necessity. Furthermore, a qualitative study of long-term antidepressant use in the older population⁹⁴ found that patients had little concerns about the long-term effects of antidepressants in terms of side-effects and financial cost, and considered their medication to be necessary for managing their depression.

However, while the NCF is a valuable model in explaining how beliefs about medicines can influence adherence or non-adherence to treatment for long-term conditions,⁶¹ it is not certain whether beliefs about medicines can explain intentions towards long-term antidepressant cessation.¹⁴⁹ I therefore felt that considering a conceptual model around deprescribing behaviour was necessary.

3.5 Deprescribing Theory

A recent approach within polypharmacy (prescribing multiple medicines to one individual¹⁵⁰) is 'deprescribing', which mostly focuses on prescribing and medication use in the older population.^{151,152} A systematic review¹⁵² aimed to identify how deprescribing was defined in the literature and determine whether there was a unified working definition of the process. While the review found a lack of consensus for the term, the authors proposed this definition:

Deprescribing is the process of withdrawal of an inappropriate medication, supervised by a health care professional, with the goal of managing polypharmacy and improving outcomes.^{152(p. 1262)}

Dose reduction is also considered within the definition of deprescribing.¹⁵³ Deprescribing potentially inappropriate medicines (PIM) could improve patient outcomes, as taking PIM may expose patients to more harm than benefit.^{153,154} Long-term antidepressant use may cause weight gain, sexual dysfunction, lack of energy, withdrawal symptoms, and adverse emotional effects such as apathy and perceived addiction to medication.^{16,49,155} Further research identified antidepressant use in the older population was associated with several adverse events, including heart attack, stroke, falls, gastrointestinal bleeding and low blood sodium.¹⁵⁶

The principles of deprescribing emphasise the need for both healthcare professionals and patients to work collaboratively to complete the process successfully; however, research has shown that deprescribing may not be easily implemented in practice.^{151,157} A qualitative synthesis¹⁵⁸ of

prescribers' barriers and enablers to minimising PIM identified prescriber awareness, behaviours and attitudes, self-efficacy, and extrinsic factors as both barriers and enablers to deprescribing.

In terms of patients' perspectives, a systematic review⁶² of studies focussing on medication withdrawal and patient beliefs about medication use was conducted, and a theoretical model (Figure 3.2) demonstrating barriers and enablers to deprescribing was created.

The theory suggests that the *Appropriateness of cessation*, the *Process of cessation*, and *Influences* can act as both enablers and barriers towards deprescribing. A *Dislike of medications* may act as an enabler to deprescribing, and *Fear* of cessation may act as a barrier.

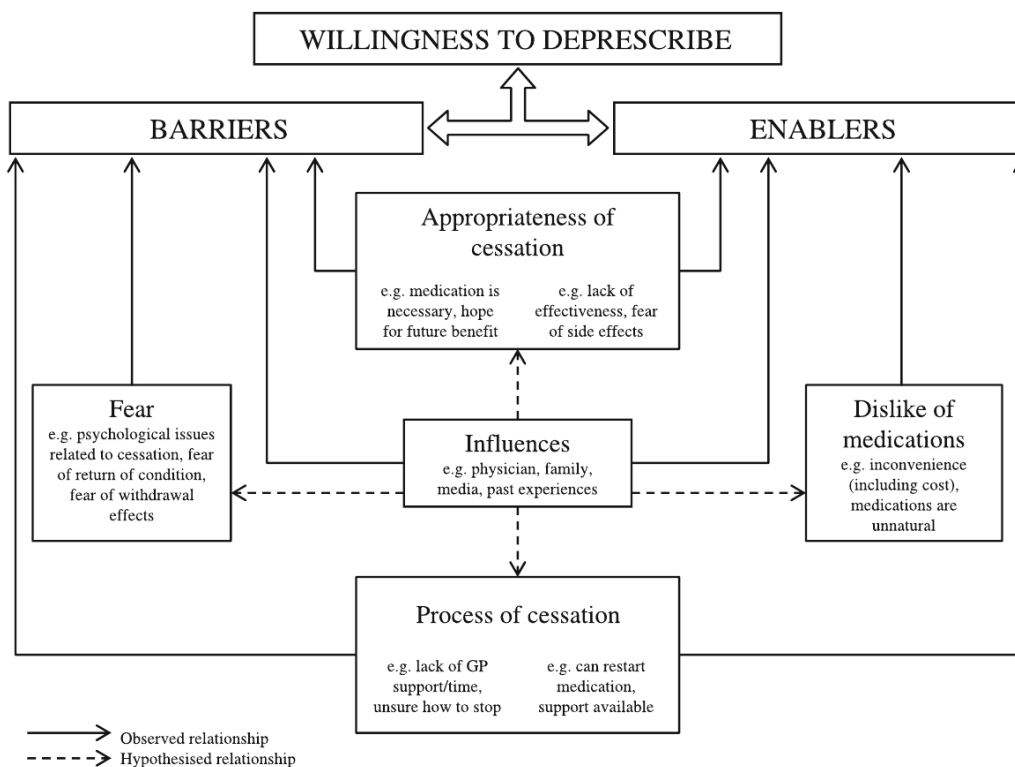


Figure 3.2 Deprescribing theory⁶²

The theory is similar to TPB as it highlights patient attitudes and beliefs towards their medication that may influence decisions to stop or continue taking medication. Moreover, as with the TPB, the role of significant others, such as friends, family, and healthcare professionals, may act as key influencers when considering stopping antidepressant medication. However, deprescribing theory also includes the concept of fear, an emotional construct that is missing from the TPB,¹⁴⁰ which may act as a barrier to stopping antidepressant treatment.

Deprescribing is considered different from the NCF concepts of non-adherence and non-compliance¹⁵³ as the healthcare professional's role is important in providing direction and supervision to the patient during the process. This highlights the need for commitment in the

process from both the practitioner and the patient. Combined with the TPB and NCF, this theory may give additional insight into the psychosocial predictors of intentions to continue or discontinue antidepressant use. However, it is worth considering that most deprescribing research has concerned polypharmacy in older adults, and while systematic reviews on deprescribing^{152,153,158} have included studies on selective serotonin reuptake inhibitors (SSRIs), benzodiazepines, and psychotropic medication, the constructs within deprescribing theory may not be generalisable towards explaining barriers and enablers to discontinuing inappropriate long-term antidepressant use.

3.6 Extending the Theory of Planned Behaviour

The TPB includes three constructs (attitude, subjective norms, and PBC) that may predict intentions towards a health behaviour. PBC may also have a direct effect on behaviour. However, considering criticisms around the strength of the TPB^{141,142} and the consensus that extending the model is acceptable,^{60,143,159} I decided to add some constructs to the model before developing a questionnaire for use in the main study.

To incorporate the synthesising arguments from my CIS and the conceptual frameworks described above, I added the construct of *Salient beliefs* to the TPB model. As explained above, salient beliefs may predict attitudes towards a behaviour.¹⁴³ Within the construct, I included necessity and concern beliefs about medication, in line with the NCF. As my CIS had the synthesising argument of *Patient representations and understanding of depression* that may influence decisions whether to stop or continue treatment, I included the concepts that depression is caused by physical factors and has a chronic timeline. As the behaviour was to stop long-term antidepressant use, I also wanted to include the concept that antidepressants were needed to control or cure depression, in line with the model of deprescribing theory. A list of the concepts within the *Salient beliefs* variable is presented in Table 3.1.

Table 3.1 Variables included in the Salient belief construct

Variable	Belief
Necessity	Beliefs that antidepressants are necessary
Concerns	Concerns about taking antidepressants
Medication	Antidepressants are needed to control/cure depression
Physical	Depression is caused by physical factors (genetics, illness, chemical imbalance)
Chronic	Depression has a chronic timeline

Another synthetic construct identified in the CIS that could influence decisions whether to stop or continue long-term antidepressant use was past experiences of discontinuation. I added the

construct of *Past behaviour*, which included patients' experience of stopping in the past or not, and with or without their GP's knowledge. There is some evidence that past behaviour can predict future behaviour, but it is not clear whether it is a key determinant of behaviour.¹⁶⁰

Two studies included in the CIS showed that beliefs about depression would predict antidepressant treatment duration.^{43,51} As I had included *Salient beliefs*, I thought it was important to add *Current antidepressant duration* to the model to see whether the length of treatment could predict intentions to stop treatment, along with beliefs about depression.

Finally, the NICE guidance⁶ suggests that patients could try to stop antidepressants if they have mild to no symptoms of depression. I wanted to see whether current symptom severity would predict patients intentions to stop treatment, so I included the construct of *Symptom severity* to the model Figure 3.3.

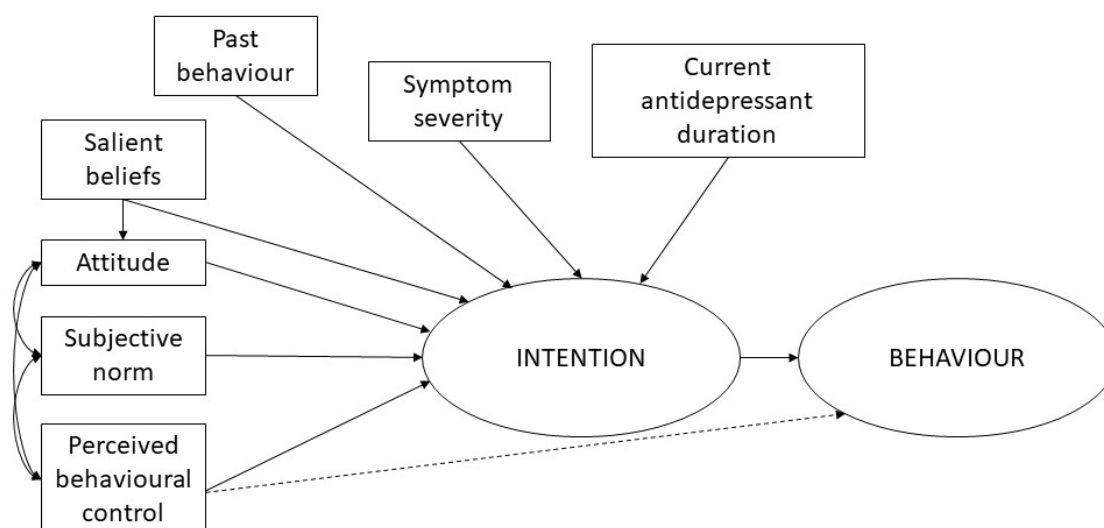


Figure 3.3 An extended model of the TPB

3.7 Conclusion

I have considered both the findings from my CIS and existing models of health behaviour based on social cognition theory to develop an extended model of the TPB that could explain patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant use.

Incorporating both the theoretical and evidence base has previously been used to develop an intervention to discontinue inappropriate long-term antidepressant use,¹⁴⁹ suggesting that this approach may be feasible in determining which beliefs are more likely to predict intentions and consequent behaviour. However, as discussed above, there are some limitations to the theoretical models that I have used, so further testing needs to be carried out to see whether the

model is fit for purpose. To test this, I created a questionnaire that could test my model. I discuss the development of this questionnaire in Chapter 4.

Chapter 4 Development of a questionnaire to investigate patient beliefs, attitudes, and behavioural intentions towards long-term antidepressant use for depression

4.1 Chapter overview

The chapter illustrates the process I took to develop items for the Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (APPLAUD) questionnaire, based on the synthetic constructs I developed in Chapter 2 and the models of health behaviour discussed in Chapter 3.

4.2 Development of items based on the Theory of Planned Behaviour

As outlined in Chapter 3, the Theory of Planned Behaviour (TPB) posits that intentions towards a behaviour can be predicted by measuring:

- Attitude: whether the individual approves of the behaviour;
- Subjective norm: how much an individual feels pressure from society to carry out the behaviour;
- Perceived behavioural control (PBC): the amount an individual feels they are in control of carrying out the behaviour.⁶⁰

While the TPB has been used in predicting a number of health behaviours,^{137,161,162} there are no standardised questionnaires to measure each construct within the model. Instead, the constructs of the TPB are measured by using questionnaire items that are tailored to the specific behaviour of interest.¹⁶³⁻¹⁶⁵ A manual was created in 2004 by a group of researchers from the Research-Based Education and Quality Improvement project,¹⁶⁶ to guide the development of questionnaire items based on the constructs of the TPB.¹³⁹ Researchers developed the guide by considering and incorporating both the theoretical and research literature around the TPB,^{136,164,165} to facilitate the creation of questionnaire items in a systematic and replicable manner. A systematic review¹⁶⁷ of studies that focussed on questionnaire development using the TPB guidance found that the questionnaires had significant content validity and reliability, based on internal consistency and Cronbach alpha values. This suggests that following the guidance and using robust methods could result in a low potential for bias. The manual has been widely used in the development of questionnaires to predict intentions and behaviour in health research; therefore, I decided to use

this manual to guide the development of my questionnaire to measure beliefs, attitudes, and behavioural intentions towards stopping long-term antidepressant use.

Apart from the construct of behaviour (the outcome), all other variables in the TPB are psychological constructs that are inferred and rely on self-report,¹⁶³ rather than directly observed. The manual suggests that each of these latent variables should be measured using direct measurements (asking respondents about their overall attitude about a particular behaviour) or indirect measurements (asking respondents about specific behavioural beliefs and outcome evaluations).

The manual advises that indirect measurements of latent variables should be developed by conducting an elicitation study with a representative sample to identify commonly held beliefs. Questionnaire items based on the more common beliefs should then be created and piloted. After discussion with my supervisory team, we decided that conducting an elicitation study would not be feasible within the timeframe of my PhD. I did draft some indirect measures based on the existing literature and initial findings from my critical interpretive synthesis (CIS) (Chapter 2), but this left an initial number of 43 items based on the TPB for participants to complete. In addition to other items in the questionnaire, this number of questions could cause respondent fatigue and the potential for lower response rates for postal questionnaires.^{168,169} However, I did include the construct of *Salient beliefs*, which can be considered indirect determinants of intentions.¹⁴³ Furthermore, as the goal of my questionnaire was to predict variance in behavioural intentions, the manual suggested that it would be sufficient to predict intentions using a 12-item questionnaire, using at least three direct items for each of the three predictor variables and three generalised intention items. Therefore, I did not include any further indirect measures to my questionnaire.

The following sections describe how I developed items using the instructions in the manual. Table 4.1 details the recommended steps in the construction of the TPB questionnaire.¹³⁹

Table 4.1 Procedure for developing a questionnaire based on the TPB

Question
1. Define the population of interest.
2. Carefully define the behaviour under study.
3. Decide how best to measure intentions.
4. Determine the most frequently perceived advantages and disadvantages of performing the behaviour (Attitudes).
5. Determine the most important people or groups of people who would approve or disapprove of the behaviour (Subjective Norm).
6. Determine the perceived barriers or facilitating factors that could make it easier or more difficult to adopt the behaviour (PBC).
7. For a standard TPB-based study, include items to measure all of these constructs in the first draft of the questionnaire.
8. Pilot test the draft and reword items if necessary.

4.2.1 Population of interest

A sample needs to be selected that is representative of the population of interest. The sample was primary care patients who had been on long-term antidepressants for depression for two years or longer. The duration of two years or longer was defined based on the National Institute for Health and Care Excellence (NICE) guidance⁶ that individuals should remain on antidepressants for at least two years if they have had two or more depressive episodes in the recent past or are at risk of relapse; but could decide with their GP whether to stop or continue treatment at this time.

4.2.2 Behaviour

One way to define the behaviour under study is to think of the behaviour in terms of its Target, Action, Context, and Time (TACT).¹⁶³ For this questionnaire, the elements were identified as the following:

- Target: primary care patients who have been on antidepressant treatment for depression for two years or longer.
- Action: stopping antidepressant treatment.
- Context: long-term antidepressant use for depression.
- Time: within six months of completing the questionnaire.

One consideration of the behaviour defined above relates to the action of 'stopping' antidepressants. While the focus of my questionnaire was to determine whether the constructs of the TPB can predict intentions to stop or continue long-term antidepressant use, the questionnaire could be considered a prompt for respondents to think about and evaluate their

antidepressant use and consequently be more likely to engage in the behaviour.¹⁷⁰ To try and minimise this, I considered asking questions that included actions of both ‘stopping’ and ‘continuing’ antidepressant treatment. However, the manual recommends that all constructs within the TPB are defined in the same way,^{139,163} known as the principle of compatibility.¹⁴⁵ Using compatible measures improves the level of prediction,¹⁵⁹ and the theoretical rationale that measuring the variables at the same specificity will better match cause and effect.¹³⁸ As the focus of my PhD was on exploring discontinuation of long-term antidepressant use, I felt that it was more appropriate to ask respondents questions about their attitudes, beliefs, and behavioural intentions towards discontinuing antidepressants.

4.2.3 Intentions

To measure behavioural intentions, a common approach in health research has been to use the ‘generalised intention’ method,¹³⁹ which asks respondents their intentions around their own health-related behaviour. Three items are used to measure intention, asking respondents to state how much they agree that they ‘*expect*’, ‘*want*’, and ‘*intend*’ to engage in a behaviour. There is empirical evidence to suggest good internal consistency between the meaning of the three items¹³⁷; therefore, I included all three items in the questionnaire (Figure 4.1). The intention score is calculated by taking a mean of the three scores, with higher mean scores indicating stronger intentions to carry out a behaviour.

1. I expect to stop taking antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

2. I want to stop taking antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

3. I intend to stop taking antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

Figure 4.1 Items measuring behavioural intention

4.2.4 Attitude

Individuals' attitudes are derived from their perceptions of the advantages and disadvantages of performing the behaviour in question. An appropriate way to directly measure attitudes are through the use of semantic differentials.¹⁷¹ The manual suggests that at least four pairs of evaluative semantic differentials should be used, with a 'stem', which defines the behaviour being explored.

For the first version of the questionnaire, the 'stem' statement created was '*For me, stopping antidepressants is:*'

Semantic differential items that measure attitudes need to focus on feelings about a behaviour (experiential items) and beliefs about whether the behaviour will achieve a particular outcome (instrumental items). Although the manual suggests that there should be at least four differentials for measuring attitude, I decided to include more items for testing, to determine which items participants felt were more relevant towards intentions to stopping antidepressant treatment. The following differentials were chosen:

- Desirable/undesirable (instrumental)
- Necessary/unnecessary (instrumental)
- Worthless/useful (instrumental)
- Harmful/beneficial (instrumental)
- Inconvenient/convenient (instrumental)
- Safe/dangerous (instrumental)
- Good/bad (experiential)
- Pleasant/unpleasant (experiential)
- Worrying/reassuring (experiential)
- Easy/difficult (experiential)
- Natural/unnatural (experiential)

The semantic of '*good/bad*' was included, as it is a frequently recognised attitude towards behaviour,¹⁷¹ and captures an overall evaluation of the attitude towards behaviour.¹³⁹

The items were structured to have scales with varying positive and negative endpoints along a seven-point Likert scale to reduce the risk of response bias. To score attitudinal beliefs, negative endpoints are transformed, and an average of the scores are calculated. Higher mean attitude scores indicate more positive attitudes towards stopping antidepressants. The items for measuring attitudinal beliefs are illustrated in Figure 4.2.

8. For me, stopping antidepressants is:								
Reassuring	1	2	3	4	5	6	7	Worrying
Desirable	1	2	3	4	5	6	7	Undesirable
Difficult	1	2	3	4	5	6	7	Easy
Unnecessary	1	2	3	4	5	6	7	Necessary
Useful	1	2	3	4	5	6	7	Worthless
Beneficial	1	2	3	4	5	6	7	Harmful
Good	1	2	3	4	5	6	7	Bad
Unpleasant	1	2	3	4	5	6	7	Pleasant
Inconvenient	1	2	3	4	5	6	7	Convenient
Natural	1	2	3	4	5	6	7	Unnatural
Safe	1	2	3	4	5	6	7	Dangerous

Figure 4.2 Item for measuring attitudinal beliefs

4.2.5 Subjective norm

To determine normative beliefs, direct measurement items are created referring to the opinions of people who are important to the respondent.¹³⁹

The manual recommends statements (Figure 4.3) that should be used to measure normative beliefs. I decided to include participants' perceptions of their GP's attitudes and beliefs towards stopping antidepressants. This was based on the synthesising argument in my CIS of *The importance of GP monitoring and reviews of the need for treatment*.

Most people who are important to me think that	
I should	1 2 3 4 5 6 7 I should not
(insert target behaviour)	
I feel under social pressure to (insert target behaviour)	
Strongly disagree	1 2 3 4 5 6 7 Strongly Agree
People who are important to me want me to (insert target behaviour)	
Strongly disagree	1 2 3 4 5 6 7 Strongly Agree

Figure 4.3 Direct measurement of normative beliefs

To measure normative beliefs, respondents score their beliefs along a seven-point Likert scale. Negative endpoints are transformed, and the mean of the item scores is calculated to give an overall subjective norm score. Higher scores indicate that participants perceive a greater societal

pressure to stop taking antidepressants. Four items were created to measure normative beliefs (Figure 4.4).

5. People who are close to me want me to stop taking antidepressants						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

6. My doctor(s) think that I should stop taking antidepressants						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

10. Most people who are important to me think that I:								
should	1	2	3	4	5	6	7	should not
stop taking antidepressants						stop taking antidepressants		

12. I feel under social pressure to stop taking antidepressants						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

Figure 4.4 Normative beliefs items

4.2.6 Perceived behavioural control

When directly measuring perceived behavioural control, items must focus on participants' perceived self-efficacy and controllability to predict the likelihood of stopping antidepressants.¹³⁹ To measure self-efficacy, items must ask participants to rate how difficult it is to stop taking antidepressants and how confident they are that they could stop. Two items were developed for the questionnaire, as shown in Figure 4.5.

4. I am confident that I could stop taking antidepressants if I wanted to						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

11. For me to stop taking antidepressants is:						
Easy			Difficult			
1	2	3	4	5	6	7

Figure 4.5 Items measuring self-efficacy

Chapter 4

Controllability is measured by asking respondents to rate how much stopping antidepressants is up to them, and whether extrinsic factors may affect their ability to stop taking antidepressants. Two items developed to measure controllability are shown in Figure 4.6.

7. The decision for me to stop taking antidepressants is beyond my control						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

9. Whether I stop taking antidepressants or not is entirely up to me						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

Figure 4.6 Items measuring controllability

As with other constructs of the TPB, negative endpoints are recoded so that higher scores consistently reflect a greater level of control over the target behaviour. A mean of the scores is then calculated to determine an overall control belief score.

4.2.7 Likert scale

There is some debate around the number of points that should be used on a Likert scale to measure how much respondents will agree with the TPB items.^{136,162-164,172} There does not appear to be any consensus on the appropriate number of response options on a scale should be¹⁷³; however, most TPB questionnaires have included seven point Likert scales.^{162,164} Empirical research¹⁷¹ found that the ideal number of response options was dependent on the sample completing the questionnaires, with more educated and motivated groups being more likely to manage more response options. Based on these findings and the suggestion of seven response options in the example items in the manual, I decided to have seven points on the Likert scale for the TPB items.

4.3 Summary

The development of questionnaire items relating to the constructs of the TPB resulted in the creation of 22 direct measurement items: three measures of intention, 11 measures of attitudinal beliefs, four measures of subjective norm beliefs, and four measures of PBC. While the manual advises that 12 items are sufficient, I wanted to include more items for testing during the cognitive interview study (Chapter 5) to decide which ones would be more appropriate for use in the main study.

4.3.1 Strengths and limitations of questionnaire design using the TPB

The TPB is a behavioural model that lends itself relatively simply to formulate a questionnaire to measure individuals' beliefs and attitudes towards a behaviour, with some research^{138,161,164} showing that it can indicate good predictions of intention and behaviour across a range of health behaviours. No previous research has investigated whether the constructs of the TPB can predict intentions to stop long-term antidepressant treatment for depression. Therefore, using this questionnaire with a sample of primary care patients who have received antidepressants for two years or longer might be useful to determine how well the constructs of the TPB predict intentions to stop or continue treatment, and to explain why some individuals may find it difficult to stop taking antidepressants.

There are some methodological considerations around the use of the TPB to predict intentions towards a health behaviour. While the model has been applied to various health behaviours, its flexibility may be problematic in creating questionnaires.^{159,170} Questionnaires need to be developed to be specific to the TACT of the behaviour being investigated and should be developed with rigour and testing of its psychometric properties to increase the reliability and validity of the questionnaire in predicting behaviour.¹⁶² There has been further criticism around the methods used in previous studies to test the theory, such as using the model in cross-sectional studies instead of longitudinal studies, using university students as participants rather than representative samples, and obtaining self-report measures rather than objective measures.¹³⁰ The TPB has also been criticised for being limited in predicting behavioural intentions,^{130,159,170} in that 50% of the variance in behavioural intentions remains unexplained.¹³⁸ Along with the theoretical limitations discussed in Chapter 3, while the TPB has made a good contribution towards the understanding of key predictors of health behaviours, expansions of the model by including additional predictors is warranted.^{130,141,143,174}

4.4 Development of items based on the Necessity-Concerns Framework

4.4.1 The Beliefs about Medicines Questionnaire

As explained in Chapter 3, one way psychologists have tackled the limitations of the TPB is to use extended forms of the model by adding constructs to explain further how psychosocial factors may predict behavioural intentions and actual behaviour.^{130,141,143,174} As my CIS suggests, patients may be uncertain about the role of antidepressants in managing depression and knowing when and how to stop antidepressants. Within the construct of *Salient beliefs*, I included beliefs about

the necessity of antidepressants and concerns about taking them long term, in line with the theory of the NCF.¹⁴⁶

The Beliefs about Medicines Questionnaire (BMQ)¹⁷⁵ is a validated questionnaire based on the NCF that asks patients about their beliefs around the need for the medicines they are taking, and any concerns they may have about taking their medicines. The questionnaire was created using a sample of participants suffering from chronic illness (including psychiatric illness) of varying disease and treatment characteristics. All participants had received one or more medicines for regular use for at least two months. The items within the BMQ were developed to represent commonly held beliefs about specific and general medicines based on existing research. The final version of the questionnaire has 10 items that relate to specific medicines (BMQ-Specific) and eight items that relate to medicine use in general (BMQ-General). The BMQ-Specific has five items related to concerns about taking medicines, and five items about the necessity of medicines.

Table 4.2 illustrates the 10 items in the BMQ-Specific, and how the statements allude to necessities and concerns about taking medicines.

Table 4.2 Items included in the BMQ-Specific

Statement	Necessity/Concern
My health, at present, depends on my medicines	Necessity
Having to take medicines worries me	Concern
My life would be impossible without my medicines	Necessity
Without my medicines, I would be very ill	Necessity
I sometimes worry about the long-term effects of my medicines	Concern
My medicines are a mystery to me	Concern
My health in the future will depend on my medicines	Necessity
My medicines disrupt my life	Concern
I sometimes worry about becoming too dependent on my medicines	Concern
My medicines protect me from becoming worse	Necessity

Items in the BMQ-Specific can be modified to ask about specific medicines by changing the word '*medicines*' to the specific treatment regimen to be explored.¹⁴⁶ For the APPLAUD questionnaire, the wording of the statements remained the same as the BMQ-Specific, apart from changing the word '*medicines*' to '*antidepressants*' (Figure 4.7).

Please read through each of the following statements carefully, and circle your response to how much you agree or disagree with the statements.

13. My health, at present, depends on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

14. Having to take antidepressants worries me				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

15. My life would be impossible without my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

16. Without my antidepressants I would be very ill				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

17. I sometimes worry about long-term effects of my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

18. My antidepressants are a mystery to me				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

19. My health in the future will depend on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

20. My antidepressants disrupt my life				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

21. I sometimes worry about becoming too dependent on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

22. My antidepressants protect me from becoming worse				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

Figure 4.7 Items created using BMQ-Specific

To score the items, participants are required to rate their response along a five-point nominal Likert scale, with the points '*strongly agree*', '*agree*', '*uncertain*', '*disagree*', and '*strongly disagree*'. '*Strongly disagree*' is scored as one point, through to '*strongly agree*', which is scored as five points. A total score of the necessity items and concerns items are computed, and the total scores for the necessity and concerns scales can range from five to 25 each. The scores can then be interpreted as continuous scales, where higher scores indicate stronger beliefs in the necessity of, or greater concerns about taking antidepressants.

4.5 Summary

I decided to include items based on the BMQ-Specific as I felt that investigating respondents' beliefs about their antidepressant medication could indirectly predict intentions to stop antidepressants.

While I have created items that focus on beliefs about antidepressants, beliefs about emotions could also have been considered for inclusion in the questionnaire,¹⁴³ for example, a fear of negative emotions or self-efficacy of managing these emotions. However, my PhD explores beliefs and attitudes towards long-term antidepressant use as a medical treatment of depression, so I have not included any beliefs about emotions or affect. Despite this, I have considered the broader psychosocial issues by including the Beliefs about Depression Questionnaire (BDQ)⁴² and the subjective norm variable within the TPB.

4.5.1 Strengths and limitations of the Beliefs about Medicines Questionnaire

The BMQ is a measure that is well-validated in terms of its internal consistency and test-retest reliability, with evidence of good criterion, construct, and discriminant validity.¹⁷⁵ A meta-analysis¹⁴⁸ of studies investigating whether the BMQ predicted adherence to medication in multiple illness conditions (including mental health conditions) found that it effectively measured patients' beliefs about the necessity of and concerns about taking medication and predicting adherence. Furthermore, a study¹⁷⁶ using BMQ to investigate beliefs about antidepressants in primary care patients found that beliefs about medicines are an important attitudinal variable in predicting antidepressant adherence. Therefore, this framework may be useful in explaining why patients decide to stay on long-term antidepressant treatment, so BMQ-Specific items were added to the APPLAUD Questionnaire.

4.6 Development of items based on deprescribing theory

The Necessity-Concerns Framework (NCF) is used to explore patients' adherence to medication and may not be able to fully explain why patients on long-term antidepressants may want to discontinue treatment. As the target behaviour is stopping treatment, theoretical frameworks about discontinuation or deprescribing should be considered.

The Patient Attitudes Towards Deprescribing (PATD) Questionnaire¹⁷⁷ is a 15-item self-report questionnaire developed based on deprescribing theory,⁶² incorporating findings from qualitative research and expert advice on patient views of medications, focusing on the cessation of taking medicine.⁶² The questionnaire consists of 10 Likert-response items and five multiple-choice

questions (Appendix G). The Likert-response questions ask respondents about how much they agree with statements concerning their medication use, along a five-point scale, from '*strongly agree*' to '*strongly disagree*', with '*unsure*' as the scale's mid-point. The multiple-choice questions refer to polypharmacy issues (as the questionnaire was designed to explore attitudes towards deprescribing in patients taking multiple medicines); and what forms of support would be suitable to respondents if they were to stop treatment.

I removed the Likert-response item '*I feel that I am taking a large number of medications*', as it related to the number of medicines an individual takes, which would not be relevant to patients if they were only prescribed antidepressants and no other medication. Table 4.3 shows the original PATD Questionnaire items and the modified items derived from them for inclusion in my questionnaire.

Table 4.3 Original and modified items based on the PATD Questionnaire

Original PATD Questionnaire items	Modified items for the APPLAUD questionnaire
I feel that I am taking a large number of medications	<i>This item was excluded as it relates to polypharmacy, not single medication use</i>
I am comfortable with the number of medications that I am taking	I am comfortable taking antidepressants
I believe that all my medications are necessary	I believe that my antidepressants are necessary
If my doctor said it was possible I would be willing to stop one or more of my regular medications	If my doctor said it was possible I would be willing to stop taking my antidepressants
I would like to reduce the number of medications that I am taking	I would like to stop taking my antidepressants
I feel that I may be taking one or more medications that I no longer need	I feel I may be taking antidepressants that I no longer need
I would accept taking more medications for my health conditions	I would accept managing my depression in other ways
I have a good understanding of the reasons I was prescribed each of my medications	I have a good understanding of the reasons I was prescribed antidepressants
Having to pay for less medications would play a role in my willingness to stop one or more of my medications	Not having to pay for prescriptions would play a role in my willingness to stop taking antidepressants
I believe one or more of my medications is giving me side effects	I believe my antidepressants are giving me side effects

Items 12 and 13 in the PATD Questionnaire (items relating to multiple medicine use) were omitted from the APPLAUD questionnaire. The item concerning the discontinuation of medicines with a doctor's knowledge (item 11) was modified to determine whether patients have tried to

stop taking antidepressants with or without their doctor's knowledge (Figure 4.8), as the evidence from my CIS suggested that individuals may have attempted to stop antidepressant treatment without any guidance or support from their GP.

32. Have you ever tried to stop taking antidepressants <u>with</u> your doctor's knowledge?			
Yes	<input style="width: 50px; height: 25px;" type="text"/>	No	<input style="width: 50px; height: 25px;" type="text"/>

33. Have you ever tried to stop taking antidepressants <u>without</u> your doctor's knowledge?			
Yes	<input style="width: 50px; height: 25px;" type="text"/>	No	<input style="width: 50px; height: 25px;" type="text"/>

Figure 4.8 Items relating to discontinuation with or without doctor's knowledge

Item 14 in the PATD Questionnaire asks respondents to rate how comfortable they would be with pharmacists stopping one of their more regular medications and providing follow-up. This item was altered for my questionnaire to ask respondents about their opinions of receiving follow-up support from their doctor, a nurse practitioner, and a pharmacist (Figure 4.9) as these primary care health professionals may be involved in the ongoing monitoring of patients' antidepressant use.

34. How comfortable would you be if the following health professionals were involved in stopping your antidepressants and provided the follow up? <i>(Please tick your answer)</i>			
	Uncomfortable	Unsure	Comfortable
Doctor			
Nurse Practitioner			
Pharmacist			

Figure 4.9 Item measuring follow-up provider preference

Finally, item 15 in the PATD Questionnaire asks what format of follow-up respondents would like if they were to stop treatment. This question (Figure 4.10) remained relatively unchanged for my questionnaire, but I included the option to choose face-to-face appointments or phone calls from doctors, pharmacists, or nurse practitioners, as these healthcare professionals were included in the previous item.

35. If your antidepressants were stopped, what follow-up would you like? <i>(Please tick all that apply)</i>	
<input type="checkbox"/>	Face-to-face appointment with my doctor
<input type="checkbox"/>	Face-to-face appointment with a practice nurse
<input type="checkbox"/>	Face-to-face appointments with a pharmacist
<input type="checkbox"/>	Phone call(s) from my doctor
<input type="checkbox"/>	Phone call(s) from a practice nurse
<input type="checkbox"/>	Phone call(s) from a pharmacist
<input type="checkbox"/>	Written information via post
<input type="checkbox"/>	Written information via email
<input type="checkbox"/>	I wouldn't need follow-up. I would be happy contacting a health professional if I had any problems

Figure 4.10 Item to ask participants about follow-up format

4.7 Summary

Thirteen items derived from the PATD Questionnaire were included in my questionnaire. I felt that including items specific to the discontinuation of medication would be beneficial because the BMQ focuses on medication adherence rather than cessation. Moreover, items in the PATD Questionnaire focus on patient beliefs' and preferences around health professionals' involvement in the discontinuation process, a synthetic construct that was identified in my CIS as a potential influence on patients' decisions to stop or continue treatment. Therefore, I felt these beliefs would be helpful to explore in my main study, to see whether these beliefs might predict intentions to stop or continue treatment.

4.7.1 Strengths and limitations of the Patient Attitudes Towards Prescribing Questionnaire

While the PATD Questionnaire has acceptable psychometric properties,¹⁷⁷ it was developed to be exploratory by design, meaning that no scoring system was attributed to the questionnaire. Therefore, it may be difficult to quantify the results from the items in the PATD Questionnaire to determine how much attitudes towards deprescribing influence patient's intentions to stop or continue long-term antidepressant use for depression. However, the authors acknowledge this issue and argue that the criterion and internal validity of the questionnaire items correlate well with the measures of the BMQ.¹⁷⁷ In 2016, the creators¹⁷⁸ of the PATD Questionnaire revised the original version, which included the original items and additional items to include attitudinal beliefs and attitudes to deprescribing. The revised version was found to have acceptable validity, reliability, and acceptable internal consistency. As the PATD Questionnaire explores beliefs about deprescribing that relate to both the BMQ (necessity of medicines and concerns about deprescribing) and the TPB (the influence of significant others and attitudes towards medication

use and stopping treatment),¹⁷⁸ it may be possible to determine which preferences of patients around deprescribing predict intentions to stop antidepressant treatment, and subsequent behaviour. The multiple-choice items can at least be used to provide descriptive statistics about patient preferences towards the deprescribing of antidepressants.

4.8 Conclusion

The first version of the APPLAUD questionnaire had 35 items asking patients about their beliefs, attitudes, and behavioural intentions towards their current antidepressant use. The questionnaire consisted of five-point Likert scale items, a semantic differential scale, and multiple-choice items, based on the TPB, the NCF, and deprescribing theory. The first version of the questionnaire can be found in Appendix H. Further guidance on the development of the questionnaire survey was provided through discussion with my supervisors and informed by assumptions around antidepressant use derived from the CIS. The questionnaire was then tested using cognitive interviews before its use in the main study. The procedure and findings of these cognitive interviews are discussed in Chapter 5.

Chapter 5 Testing the acceptability of a questionnaire to investigate patient beliefs, attitudes, and behavioural intentions towards long-term antidepressant use for depression: A cognitive interview study

5.1 Chapter overview

This chapter describes the qualitative testing of the questionnaire I developed (Chapter 4), based on my findings from my critical interpretive synthesis (CIS) (Chapter 2) and theoretical models of health behaviour (Chapter 3). I conducted cognitive interviews with participants on long-term antidepressant treatment. This chapter gives an overview of using questionnaires as a data collection method and cognitive interviewing methods. I discuss the procedure I used to conduct the study and present the findings from a sample of 10 participants who took part. I then outline the changes I made to my questionnaire before its use with a larger sample for the main study.

5.2 Cognitive perspectives on questionnaire surveys as a data collection method

Tourangeau¹⁷⁹ created a cognitive model that outlines four key processes that participants may carry out to answer a question: comprehension, retrieval, judgement, and response. Participants will typically go through the response process in the order presented in Figure 5.1. Participants need to understand the question, retrieve or recall relevant information, make a judgement about the question, and form a response that maps onto the response options included in the question.¹⁷⁹

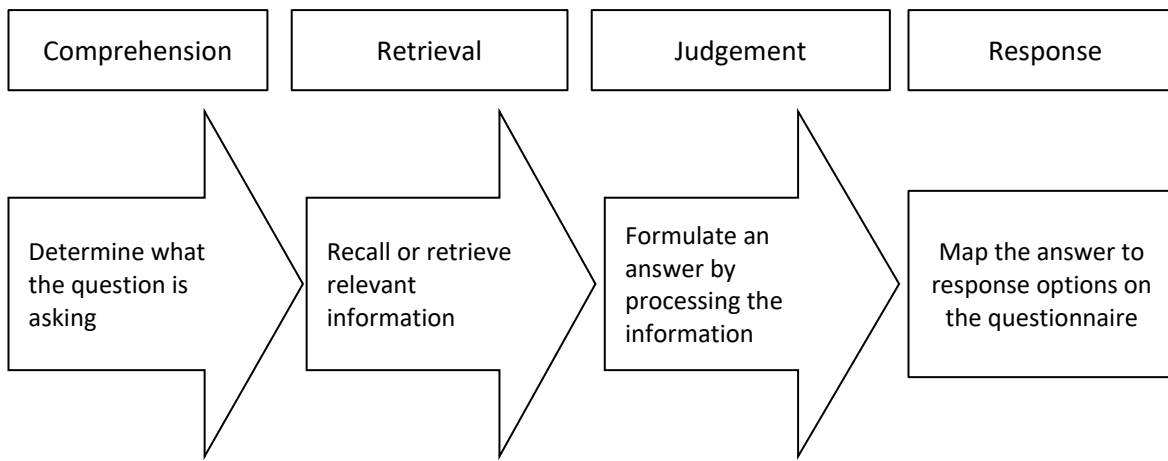


Figure 5.1 Cognitive response process

Surveys are typically designed to ask participants about personal activities or circumstances (behavioural questions) or their views on a particular issue (attitude questions).¹⁸⁰ If participants are required to answer a question that asks them about their attitude, their response may be formed either by making a judgement based on a memory concerning the attitude, or making a judgement on the spot. For questions concerned with behaviour, participants will have to identify the behaviour they are being asked about and recall relevant information to answer the question.¹⁸¹ Once participants have formed a response in their mind, they then need to tailor their judgement to 'fit in' with the response options provided in the questionnaire. Two additional processes are required when answering written questionnaires. Participants have to recognise and understand the instructions to complete the questionnaire satisfactorily, and understand the questionnaire's visual layout and routing.¹⁸² The accuracy of the information given by participants can be influenced by sampling methods and survey implementation method, the structure and design of the questionnaire, and how the data are edited and coded.^{180,181,183} As such, questionnaires need to be clearly understood by participants and easy to complete.¹⁸⁴ If not, there is a likelihood of item non-response or response effects, which will impact the reliability and validity of the data.¹⁸⁵ Item non-response may occur because participants may feel that questions do not make sense or are irrelevant, the instructions on how to answer a question are unclear, or the design of the questionnaire is too complex or lengthy.^{179,184-186} Moreover, response bias may occur when the respondent wants to give socially desirable responses, provides extreme responses, or is influenced by the question order.¹⁷⁹ Conrad and Blair¹⁸⁷ developed a Response Problem Matrix of five problem classes that include most of the issues respondents may show when completing questionnaires. These five problem classes are described in Table 5.1.

Table 5.1 Response Problem Matrix

Problem type	Response stage		
	Understanding	Task performance	Response formatting
Lexical	Participants do not understand the meanings of words or how to use words within the context of the question.	Participants may understand what task they are required to perform but have difficulties using the words in the question to perform the task.	Participants will have difficulty mapping information produced in the primary task as it is not clear how the information and item categories interrelate.
Inclusion/ Exclusion	Participants are uncertain as to what instances should be considered within the meaning of a word in a question.	Problems will occur if there is no explicit rule to include/exclude instances in a category, and participants are required to make that decision.	Participants want to provide a response that is not explicitly given as an option in a question.
Temporal	Participants are uncertain as to what timeframe the question refers to.	Participants may understand the lexical component of the question but make an incorrect interpretation of the timeframe.	Participants have difficulty mapping information produced in the primary task to the response options, e.g. producing a precise count but having to apply it to qualitative response options.
Logical	Questions may include logical connectives (i.e. 'and'/'or'), false presuppositions, or contradictions that makes responding subject to the respondent's interpretation of the question.	Participants are unsure how to approach the question as they may not have the same views, experiences or behaviours related to separate parts of the question.	Participants have difficulty providing an accurate response as they are uncertain how the response options are calibrated.
Computational	Syntax of question is complicated, with embedded clauses or complicated instructions.	Participants struggle to recall and relate detailed accounts. Participants may find it challenging to hold partial responses before giving a final response.	Participants understand what they need to do but find it difficult to calculate and map response.

5.2.1 Cognitive interviews

To minimise response effect and response bias, cognitive interviewing methods can be used to test survey questionnaires and explore how individuals understand, process, and respond to items before their use with a larger sample of the population of interest.¹⁸³ Cognitive Aspects of Survey Methodology (CASM) is a field of research that promoted the integration of cognitive psychology with survey methodology to test questionnaire surveys, taking into account the cognitive processes involved with answering questions.^{181,188} Cognitive interviewing is a method in which the construct validity of a questionnaire can be tested by determining how participants may or may not interpret and respond to questions in different ways, based on their own experiences of the phenomena.¹⁸⁹ Cognitive interviews can be conducted with participants in two ways.¹⁸⁸ The first way uses ‘think-aloud’ techniques, where the interviewer administers a question and asks participants to talk out loud as they answer it. Second, ‘verbal probing’ is a technique where the interviewer administers the question, and the respondent gives an answer. The interviewer then probes further to elicit further relevant information to gain insight into how and why the respondent gave their response. Probes can be prepared before cognitive interviews take place and usually consist of questions within six basic categories illustrated in Table 5.2.

Table 5.2 Examples of cognitive probes

Probe	Example
Comprehension/interpretation	What does the term “x” mean to you?
Paraphrasing	Can you repeat the question I just asked in your own words?
Confidence judgement	How sure are you that...?
Recall	How do you remember...?
Specific	Why do you think that...?
General	How did you arrive at that answer?
	Was that easy or hard to answer?
	I noticed that you hesitated - tell me what you were thinking?

These probes can be used concurrently while the respondent answers the questions, or retrospectively in a debriefing session once the respondent has answered all of the questions.¹⁸⁸ Concurrent probing tends to be the preferred method as the participant can immediately recall how and why they answered the question. However, some aspects of retrospective probing can be useful when using cognitive interview methods to test self-administered questionnaires. This is

so the interviewer can see how easy participants follow the instructions on how to complete the questionnaires without any form of verbal direction.¹⁸⁸

Therefore, cognitive interviewing is a valuable way to reduce the risk of collecting data that are neither reliable nor reflective of the samples' responses, by ensuring that items within the questionnaire are answered in the way the researcher has intended. I felt that cognitive interviews would allow me to gain insight into how patients that have been on long-term antidepressant treatment would respond to the questionnaire I created. This would ensure that the questionnaire was fit for purpose for the main study by asking patients pertinent questions relevant to their beliefs, attitudes, and intentions towards stopping long-term antidepressant use in primary care.

5.3 Aims and objectives

The aim of this study was to explore the face validity of the questionnaire I developed by looking at how individuals taking long-term antidepressants responded to and completed items that measured beliefs, attitudes, and intentions towards stopping or continuing antidepressant treatment.

The objectives were to:

- Explore how participants responded to and completed items in the questionnaire
- Identify how participants understood and interpreted the questions.
- Identify any problems or difficulties participants encountered when completing the questionnaire.
- Ask participants about their views on the overall layout and structure of the questionnaire.
- Make any necessary changes to the questionnaire to enhance its face validity before its use in the main study.

5.3.1 The APPLAUD Questionnaire

The development of the Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (APPLAUD) Questionnaire is described in more detail in Chapter 4. In brief, the questionnaire consists of 35 items that asks participants about their beliefs, attitudes, and behavioural intentions towards their current antidepressant use. The questionnaire consists of seven- and five-point Likert scale items, a semantic differential scale, and multiple-choice items, based on the Theory of Planned Behaviour (TPB),^{60,139} the Necessity-Concerns Framework

(NCF),¹⁴⁶ and deprescribing theory.⁶² The first version of the questionnaire can be found in Appendix H.

5.4 Methods

5.4.1 Participants

Participants were eligible to take part if they were aged 18 or over, previously diagnosed with depression, and had been taking antidepressants for two years or longer. The aim was to recruit up to 15 participants as this number is seen as typical in cognitive interviewing research, and is acceptable if the number of interviews has identified and addressed all problems with the questionnaire.¹⁸⁵

I adopted the purposive sampling method of maximum variation sampling⁸² for my study, as I wanted a sample of participants with a wide variation of demographic characteristics and duration of antidepressant treatment. I felt this approach would elicit a broader range of views and responses to my questionnaire, and be more representative of participants who would participate in the main study. Table 5.3 lists the inclusion and exclusion criteria for the study.

Table 5.3 Study inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Adults aged 18 or over.	Currently seeing a psychiatrist.
Previously diagnosed with depression by their GP.	Have had any thoughts or ideas about hurting themselves recently or feel they would be better off dead.
Taking antidepressants continuously for two years or longer.	Have a history of depression requiring psychiatric treatment.
	Have been diagnosed with psychosis, bipolar disorder, obsessive compulsive disorder, or substance misuse.
	Taking antidepressant medication for illnesses other than depression.
	Score over 10 points on the PHQ-9 depression questionnaire at screening.

Individuals were deemed ineligible if they scored more than 10 on the Patient Health Questionnaire for Depression (PHQ-9), as scoring above that number could have included patient with residual symptoms of depression and would not be eligible to stop antidepressants.

Participants were recruited through the University of Southampton *efolio* website, where research studies are advertised to the university community members interested in participating in research. I put posters up advertising the study in the Psychology Building on Highfield Campus (Appendix I.1). I also wanted to recruit participants who had personal experience with depression and long-term antidepressant use outside of the University community, to ensure maximum variation sampling.⁸² I decided to seek support from my Patient and Public Involvement (PPI) contributor, who I previously worked with on the Patient Reported Outcome Measures for DEpression (PROMDEP) feasibility trial.⁵⁰ My PPI contributor is a service user, as well as the organiser for Depression Alliance, a local self-help group for patients with depression. I was invited to attend the start of one of the group sessions, where I was able to talk about and explain the study to members of Depression Alliance and leave copies of the participant information leaflet (PIL) (Appendix I.2). Initially, recruitment to the study was slower than anticipated, so an amendment was made to recruit participants using social media by posting an advert about the study on Facebook and Twitter. A link to a website (<https://theapplaudstudy.wordpress.com>) was included on these posts for interested individuals to read the PIL and send expressions of interest via an online contact form. An advert was also placed in the Letters section of the Southern Daily Echo (a regional newspaper based in Southampton). I also included snowball sampling methods,⁸² asking participants who had taken part in the first few interviews to approach additional relevant contacts and tell them about my study.

The eligibility criteria were changed to include participants that had been on antidepressants for nine months or longer, due to the difficulty in recruiting participants to the study. The decision to change the eligibility criteria was made after a discussion with my supervisors. The National Institute for Health and Care Excellence (NICE) guidelines⁶ suggest that once a patient starts antidepressant treatment, they should receive ongoing monitoring from their GP for at least the first three months. Once patients go into remission from their depressive episode, they should continue to take antidepressants for at least six months. I felt that amending the eligibility criteria to include individuals who had been on antidepressants for nine months or longer would still yield pertinent findings, as these patients would be approaching a time where they would be making decisions about whether to stop or continue treatment.

5.4.2 Ethical approval

The study was subjected to an internal peer review before submission to the University of Southampton Faculty of Medicine Ethics Committee. Initial approvals were given on 20th November 2016 (Ethics ID: 23956), with the amendment approved on 14th March 2017 (Ethics ID: 25644).

5.4.3 Procedure

Once individuals expressed an interest in the study, I screened them for eligibility over the telephone using a screening questionnaire (Appendix I.3). Individuals were excluded if they had severe mental illness, were at risk of harm to themselves or others, or took antidepressant medication for illness other than depression. Individuals were required to complete the PHQ-9 questionnaire to assess their current severity of depressive symptoms.¹⁹⁰

Eligible participants were invited to attend a face-to-face cognitive interview, either at Aldermoor Health Centre, Highfield Campus, or at the participant's home. At the start of the interview, participants were reminded about the purpose of the study and could ask me any questions they had about the study. If they were happy to take part, participants were asked to provide written informed consent (Appendix I.4). The interviews were audio-recorded, and I took written notes during the interview to refer to when developing and refining the questionnaire.

In order to put the participant at ease and familiarise them with the process of 'thinking aloud' their response processes while completing the questionnaire, they were invited to perform a quick warm-up exercise, as recommended by Willis.¹⁸⁵ All participants were asked:

"Try to visualise the place where you live, and think about how many windows there are in that place. As you count up the windows, tell me what you are seeing and thinking about."

Once participants had completed the warm-up exercise, I gave the participant a copy of the questionnaire. Participants were asked to complete the questionnaire as if they were on their own, read the questions aloud, and verbalise their thought processes as they completed it. A topic guide was used (Appendix I.5), which comprised a list of concurrent and retrospective probes. The concurrent probes were used as participants completed each item in the questionnaire to guide participants through their cognitive processes to answer the question, as this is beneficial when questions are about attitudes or opinions.¹⁹¹ The probes were used to elicit rich information about how the participant answered the questions, regarding their comprehension, retrieval, judgement, and response processes. Moreover, the probes aimed to identify any items that participants found difficult to answer. Retrospective probes were used after the participant completed the questionnaire to get their overall impressions, their views on layout and formatting, and their views on completing the questionnaire in either paper- or web-based formats. When participants had completed the questionnaire, they were asked to complete the PHQ-9,¹⁹⁰ a demographic questionnaire (Appendix I.6), and a questionnaire asking them about their history of depression and antidepressant treatment (Appendix I.7). When the interviews

were finished, participants were given a debriefing statement (Appendix I.8) to remind them of the purpose of the study. Psychology students were allocated credits that contribute to their degree, and other participants were given a £10 high street shopping voucher to thank them for their time.

5.4.4 Analysis

The data collected in the interviews were analysed following the steps outlined by Miller et al.¹⁹² Audio recordings and notes made during the interviews were summarised on a question-by-question basis, to illustrate how participants interpreted and arrived at the responses they gave to the question. The individual summaries for each question were then compared between participants to identify any common themes about how participants arrived at their responses. From this, conclusions were drawn about the performance of each question and identified suggested changes.

Cognitive interviewing is an iterative process¹⁸⁵; whereby interviews should be conducted to the point that all problems with the questionnaire have been identified and addressed.¹⁸⁵ After five interviews, the questionnaire was modified based on feedback from participants and discussion with my supervisors. Once the changes had been made, a further round of cognitive testing was carried out using the modified questionnaire, to determine whether the changes rectified the issues identified in the previous round of interviews, and to identify any further issues.

5.5 Findings

5.5.1 Sample

Figure 5.2 shows the recruitment process of participants to the study. Ten participants were recruited to the cognitive interview study. Ten individuals who sent an expression of interest did not participate in the study as they did not respond to my telephone calls to arrange an interview. Four participants were ineligible after screening, as they scored more than 10 on the PHQ-9.

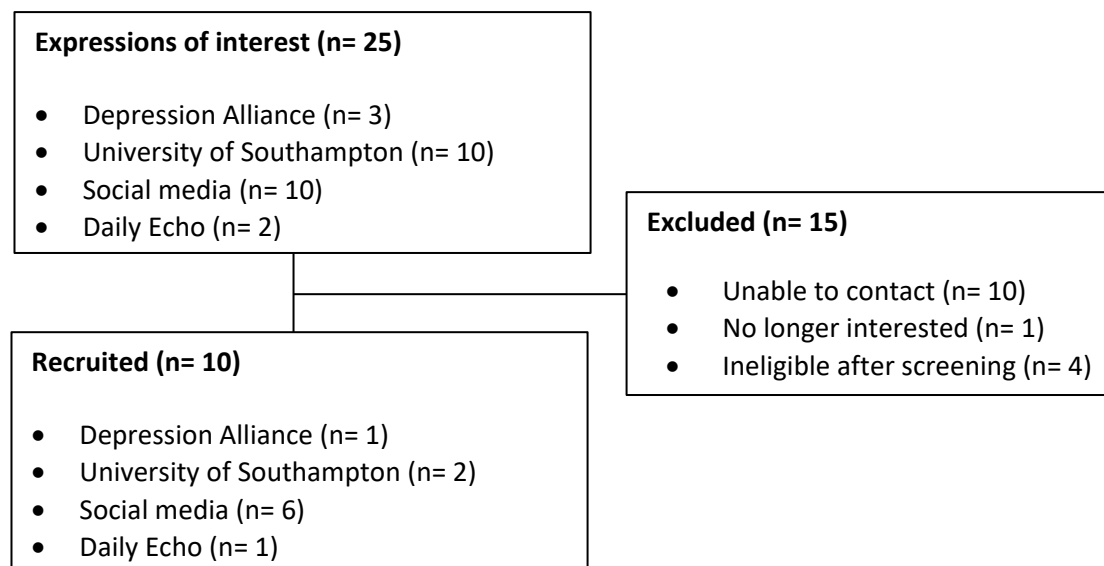


Figure 5.2 Recruitment flowchart

Two rounds of cognitive testing of the questionnaire were carried out, both consisting of five participant interviews. Table 5.4 illustrates the characteristics of participants who took part in the interviews. Interviews lasted approximately one hour. A summary of recommendations for each question after the first round of cognitive testing can be found in Appendix J, along with feedback and changes to the questionnaire after discussion with my supervisors.

Table 5.4 Participant characteristics

Characteristics		N	Min - Max	M (SD)
Gender	Female	7		
	Male	3		
Age		10	21 - 74	42.6 (16.3)
Ethnicity	White	9		
	Mediterranean	1		
Marital Status	Married	3		
	Cohabiting	2		
	Single	5		
Still in education	Yes	3		
	No	7		
Age left education		7	16 - 27	20.0 (4.2)
Highest Exam Level	A Level/BTEC/NVQ Level 3	4		
	Degree/Higher Degree/NVQ Level 5	5		
	Vocational Qualification	1		
Economic position	Full-time work	4		
	Part-time work	1		
	Unemployed	1		
	Retired	2		
	Student	2		
PHQ-9 Score		10	1-10	6.7 (3.1)
Duration of depression*		10	19 - 504	143.3 (150.9)
Duration of current antidepressant treatment*		10	15 - 240	89.1 (77.4)
Antidepressant drug	Citalopram	2		
	Duloxetine	1		
	Fluoxetine	1		
	Sertraline	4		
	Venlafaxine	2		
Age first prescribed antidepressants		10	16 - 72	29.6 (16.6)
Successfully stopped antidepressants before	Yes	1		
	No	9		
Duration of time off antidepressants*		1	24	

*duration is measured in months.

The sections below illustrate the issues highlighted by participants during the first round of interviews, along with changes to the questionnaire before the second round of testing, and the effect of these amendments in the second round of testing.

5.5.2 General impressions of the questionnaire

Overall, participants were positive about the questionnaire. Some participants reported that the questionnaire made them think about their long-term antidepressant use; however, they did not feel the questionnaire suggested the need for them to either stop or continue treatment. A few participants questioned whether their GP would see the results of the questionnaire, as they may have answered the questions differently if they knew that their GP would see their responses. Participants felt that it would be beneficial for the questionnaire booklet to highlight to participants that GPs would not be shown the results of the questionnaire, as it would then lead them to answer the questions more openly and honestly.

5.5.3 Comprehension of ‘stopping’ antidepressants

During the interviews, the majority of the discussion focused on the questionnaire items created using the TPB constructs (items 1-11, Appendix H). Participants talked about their understanding of the term to ‘stop’ antidepressants. As the questionnaire asked participants about their beliefs and attitudes towards discontinuing antidepressant treatment, it was important to ensure that their interpretations of the items were about the discontinuation process, rather than being completely off treatment within a six-month timeframe.

During the first round of testing, participants were asked what the term ‘*to stop taking antidepressants*’ meant to them. The interpretation of ‘stop’ varied, with three participants understanding it as the gradual process of discontinuing antidepressants within the six-month timeframe. One participant interpreted it as no longer being in receipt of antidepressant treatment after the six months, which they suggested was a “*radical step*” (Participant 5), as they said they should wean off antidepressants rather than just ‘stop’. Some participants used the timeframe of six months to determine what ‘*to stop taking antidepressants*’ meant, with one participant explaining they interpreted the question to mean that the decision had already been made to stop treatment, but six months was needed to begin the process. Another participant felt that six months gave a deadline to stop taking antidepressants completely, and if they had not stopped by six months, they would have failed.

These findings showed that the items led to both lexical and temporal understanding problems between participants. Therefore, I made suggestions that either a definition of ‘stop’ should be

provided at the start of the questionnaire, or to change the term '*stop*' to '*reduce*'. During discussions with my supervisors, words such as '*tapering*' and '*reduce*' were suggested as alternatives to '*stop*', but it was felt that these words might be difficult to comprehend for individuals with low health literacy. A decision was made to replace '*stop*' with '*start to come off*' to all relevant questionnaire items before the second round of testing.

When participants were asked what '*to start to come off*' meant to them, their comprehension was more consistent in their interpretation. All participants interpreted '*to start to come off*' as beginning the process of reducing the dosage of the antidepressant medication they were taking. One participant further interpreted the statement as taking the initiative to see their GP and start discussions of discontinuing their treatment.

5.5.4 Difference in the meaning of '*expect*', '*want*', and '*intend*'

Another key component of the questionnaire that participants spent time discussing was the difference between the meanings of the words '*expect*', '*want*', and '*intend*' in items 1, 2, and 3 of the questionnaire. As participants started to complete the questionnaire, some interpreted the three items to be asking the same question, but after spending some time thinking about the question and distinguishing the difference in meaning between '*expect*', '*want*', and '*intend*', participants were able to answer the questions appropriately.

Generally, participants interpreted the item '*expect*' as having some thoughts towards stopping antidepressants, but no plan had been put in place to do so. Most participants talked about their expectations to stop taking antidepressants being a mutual expectation between themselves and their GP, and that they considered their GP's opinion when forming a response. Some recalled recent visits to their GP to discuss their treatment where no discussion had been had about discontinuation, so participants felt they were not expected by their GP to come off antidepressants. Others thought about what taking antidepressants meant to them. Some saw taking antidepressants as a temporary treatment for their depression and expected to stop taking them in the future as they felt their depression was only a temporary illness.

Participants felt the item '*want*' was asking about their personal desire to discontinue antidepressants. The majority of participants expressed that they would like to discontinue antidepressant treatment, as it would be a sign that they are no longer depressed and able to manage their day-to-day lives without the need for medication. However, most participants acknowledged that it would be unsuitable for them to start the discontinuation process, due to personal circumstances and their belief that antidepressants were currently preventing them from experiencing depressive symptoms.

Finally, most participants interpreted the item '*intend*' as an active process of putting a plan in place to begin discontinuing antidepressants. Some participants found it harder to distinguish the difference in meaning between '*expect*' and '*intend*' compared to '*want*', so scored the same response to both items. Some participants felt the word '*intend*' was quite strong and perceived stopping antidepressants as a finite decision.

After the first round of testing, I considered separating the items to be asked at different points of the questionnaire to reduce the potential for logical response formatting problems. However, it was felt that this might cause participants to feel the questions were being repeated and could result in giving the same response to each question. I decided to format the words to be presented in italics and underlined to highlight each item's difference in meaning. During the second round of testing, all participants mentioned the formatting of the words and considered the difference in meaning between items when answering the questions. Some participants wondered why the words had been formatted but would usually explain that although the items seemed to be asking the same question, the fact that '*expect*', '*want*' and '*intend*' were italicised and underlined suggested that each of the questions had a different meaning and should be interpreted differently. It appeared that participants in the second round of testing took less time to form a judgement and respond to the items compared to those in the first round.

5.5.5 Semantic differentials item

Participants appeared to struggle with the item listing semantic differentials on their attitudes towards starting to come off antidepressants. Figure 5.3 shows how the item was presented in the first version of the questionnaire.

8. For me, stopping antidepressants is:								
Reassuring	1	2	3	4	5	6	7	Worrying
Desirable	1	2	3	4	5	6	7	Undesirable
Difficult	1	2	3	4	5	6	7	Easy
Unnecessary	1	2	3	4	5	6	7	Necessary
Useful	1	2	3	4	5	6	7	Worthless
Beneficial	1	2	3	4	5	6	7	Harmful
Good	1	2	3	4	5	6	7	Bad
Unpleasant	1	2	3	4	5	6	7	Pleasant
Inconvenient	1	2	3	4	5	6	7	Convenient
Natural	1	2	3	4	5	6	7	Unnatural
Safe	1	2	3	4	5	6	7	Dangerous

Figure 5.3 Semantic differentials item

Of the 11 differentials, participants identified several lexical understanding problems. They found the '*natural/unnatural*' semantic to be the most problematic. Some participants did not understand what the words meant in relation to antidepressant use. For example, one participant said that they interpreted '*natural*' to mean organic, whereas '*unnatural*' meant something was plastic or man-made and struggled to translate this interpretation to the process of stopping antidepressants. Two participants explained that their comprehension of '*natural*' related to serotonin as a natural chemical produced by the body, whereas taking it as medication was '*unnatural*'. The other two participants interpreted '*natural*' to mean that thinking about the process of stopping is 'normal', particularly if you are no longer feeling depressed. Given the ambiguity of the terms, participants had difficulty forming a judgement and response to the question.

Furthermore, participants highlighted difficulties comprehending the '*useful/worthless*' semantic. One participant felt that the semantics were not direct opposites of each other in terms of meaning. They explained that '*useful*' made them think about what they would gain out of stopping antidepressants, whereas the term '*worthless*' made them think that it was wrong to be on antidepressants in the first place. Other participants struggled to interpret the two words and subsequently found it difficult to provide a score.

With the semantics '*good*' and '*bad*', one participant felt the terms were quite subjective and should answer '*good*', as it is more socially desirable not to be on medication for depression. However, two participants made a judgement on their response based on their own personal attitude that stopping antidepressant treatment would be '*good*' as it would mean that they are no longer depressed. Moreover, participants felt the semantic '*inconvenient/convenient*' was not a relevant concept when thinking about stopping long-term antidepressants. Participants felt the question was relating to the practicalities of taking antidepressants, such as having to pay for them and having to collect them from the pharmacy. As participants were indifferent to the question, they found it challenging to arrive at a response.

As participants expressed that there were too many semantic differentials in the item, and the view that some were irrelevant or difficult to answer, I felt the following differentials should be removed:

- Useful/worthless
- Difficult/easy (this was asked as a separate item in the questionnaire)
- Good/bad
- Convenient/inconvenient
- Natural/unnatural

During the discussion with my supervisors, it was felt that '*good/bad*' should remain in the questionnaire as it added an interesting moral dimension to the question. Furthermore, the TPB manual¹³⁹ recommends that this semantic should be included in questionnaires, stipulating in the instructions that GPs would not see the questionnaire results would eliminate the risk of response bias through social desirability.

While the semantic of '*difficult/easy*' was asked as a separate item in the questionnaire, I decided to keep the semantic within this item and removed the standalone question. The remaining semantic differentials listed above were removed.

Another issue a participant had with the item was that they were unsure for whom the semantics applied to (an inclusion/exclusion understanding problem). The decision was made for '*For me*' at the beginning of the statement to be italicised and underlined, so participants were aware that the item was asking for their own personal attitude rather than providing attitudes of stopping antidepressant treatment from a general viewpoint.

After changing the item, participants were more positive in their opinion of the item during the second round of testing, with some highlighting that it made them think about their current attitudes towards their antidepressant use, based on their experiences and understanding of being on them. Some participants would recall other people's experiences of being on antidepressants and how this could influence their judgement. However, as the term '*For me*' was italicised and underlined for emphasis, participants acknowledged that the questionnaire asked for their personal opinion and would respond accordingly.

A computational task performance problem that appeared more prominent during the second round of testing was that participants would tend to read down the list of words on the left-hand column, then read down the list of words in the right-hand column, rather than reading from left to right. While this was not voiced as problematic by participants, they took longer to understand how to answer the question.

5.5.6 Neutral response option in the Theory of Planned Behaviour

During both rounds of testing, participants noticed that items created using constructs of the TPB had a different Likert Scale, using a numerical scale instead of a scale of words used in items based on the Beliefs about Medicines Questionnaire (BMQ-Specific), shown in Figure 5.4. In general, participants found it easier to respond to the scales using words rather than the numerical scale. This was particularly evident when participants gave a score of 4. During the interviews, I would ask why participants had scored 4, and two responses would be given: either

because their response was “*bang in the middle*” (Participant 9) between ‘*strongly disagree*’ and ‘*strongly agree*’ or because they “*simply didn’t know*” (Participant 10) how to form a judgement and response to the question. This issue of lexical response formatting was discussed after the first round of testing; however, given that the items were created using instructions¹³⁹ and templates from validated questionnaires, it was decided that the Likert scales should remain unchanged. Based on these findings and the use of seven response options in the example items in the manual, I decided to use seven points and only include the definitions on the response ends of the Likert scale.

5. People who are close to me want me to stop taking antidepressants						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

17. I sometimes worry about long-term effects of my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

Figure 5.4 Difference in Likert scales between the TPB (item 5) and BMQ-Specific (item 17) items

5.5.7 Order effects

While participants did not highlight this issue, my supervisors questioned whether some items should be rearranged, as they posed the risk of causing order effects. For example, questions within the TPB items that asked participants about normative beliefs (e.g. ‘*My doctor(s) think that I should start to come off antidepressants within the next six months*’) may affect how participants would answer items about control beliefs (e.g. ‘*Whether I start to come off antidepressants within the next six months or not is entirely up to me*’). It was felt that participants could consider the role of their GP when thinking about their own personal control of taking antidepressants. Therefore, items concerning beliefs about perceived control were moved to precede those about beliefs about subjective norms.

5.5.8 Questionnaire design and layout

Participants were generally happy with the layout, formatting, and instructions of the questionnaire. As previously mentioned, participants said they would feel happier to participate in the study if they knew their GP would not see the results of the questionnaire, and that this should be made clear on the information leaflet and instructions. One other participant said that they felt some items were difficult to answer, as her immediate judgement would be “*it depends*”

(Participant 6), meaning that her response depended on what her circumstances were at the time. The participant suggested that it may be beneficial to have a box at the end of the questionnaire where individuals could write any additional comments they felt would be beneficial for the researcher to know. A free-text box was included in the second round of interviews, which was generally well-received by participants, as they felt they could include information that could have influenced their answers and that their opinions were valued. One final change to the formatting was that '**strongly agree**' and '**strongly disagree**' in the TPB questions should be emboldened to highlight what each end of the scale represented more clearly.

5.5.9 Completing the questionnaire by post or online

Participants were asked whether they would prefer to complete the questionnaire by post or submit their responses online. There was no overwhelming preference for either method from participants. Some stated a preference for completing postal questionnaires, as they would have a greater appreciation that someone had taken the time to send them a questionnaire and would take more time and care when completing it. Others felt it would seem more valid if receiving it with an enclosed letter from their GP. However, some felt that it might be burdensome for some patients with depression to have to leave the house to return the questionnaires by post, and as a result, they may be less inclined to participate. This supported some participants' preference to complete the questionnaire online, as it meant they could complete and submit their responses from the comfort of their own home. Participants felt that it would be beneficial to have the option to complete the questionnaire by post or online, which could consequently increase the response rate.

5.6 Discussion

5.6.1 Summary

The modified questionnaire (Appendix K) consists of 35 items, which were developed and refined through cognitive interviews with a representative sample of participants. Eight changes were made to the questionnaire after the first round of testing with five participants. Amendments made to the questionnaire were tested with a further five participants during the second round of testing. The amendments made to the questionnaire improved participants' comprehension, retrieval, judgement and response to the items, and no further significant problems were identified during the second round of testing.

Participants were generally happy with the questionnaire in terms of its purpose, content, and layout. Participants gave the impression that they felt valued to be asked about their attitudes, beliefs, and intentions towards long-term antidepressant use, and would be happy to complete the questionnaire (either by post or online), should they be invited to take part. While most questions relating to the BMQ-Specific¹⁷⁵ and Patient Attitudes Towards Deprescribing (PATD) Questionnaire¹⁷⁷ were acceptable to participants, TPB questions presented more problems regarding the interpretation and how to respond. Changing the term '*stop*' to '*to start to come off*' improved participants' understanding that the questionnaire was about their beliefs and attitudes towards discontinuing antidepressant treatment. Using a term with less ambiguity should reduce the risk of low construct validity in the main study.

The questionnaire asked participants about their attitudes, beliefs, and intentions towards long-term antidepressant use that appeared to be relevant towards the decision-making process of whether to stop or continue treatment. Participants spent some time talking about their thought processes when answering the first three items and establishing a difference in the meaning of '*expect*', '*want*', and '*intend*'. A meta-analytic review¹³⁷ into the efficacy of the TPB found that there is a distinction between intention, desire ('*want*'), and self-prediction ('*expect*') in predicting behaviour. Therefore, including the three items in the questionnaire is justified.

Participants would spend time talking about significant others, including family, friends, and their GP, and how their beliefs may play a role. Participants would also link experiences of discontinuing antidepressants with experiences of withdrawal effects if they had forgotten to take their medicine. Based on my CIS, asking participants about their beliefs and attitudes towards antidepressants and discontinuation are relevant and important in the decision-making process. However, participants appeared ambivalent when responding to questions that asked them about the practical issues of taking antidepressants, such as their attitudes towards paying for prescriptions and how they collect their repeat prescriptions. There is limited evidence in the literature that suggests that this factor plays an important role in patients' decisions to stop or continue antidepressant treatment. However, it was explored in the main study by including the relevant items from the PATD Questionnaire and qualitative interviews.

Finally, the interviews highlighted the difficulties participants had in responding when they were either indifferent in their opinion or did not know how to answer a question. There has been considerable debate regarding the use of Likert scales and how they are presented in questionnaires, particularly the midpoint of the scale, and how this should be interpreted.^{162-164,172} Krosnick and Presser¹⁹³ state that all points on a scale should be made clear of their meaning, as the ambiguity of the point may lead to the validity and reliability of the question being

compromised. The authors suggest that the midpoint of a scale may lead to satisficing, whereby participants will score 'in the middle' if they are neutral or indifferent in their attitude. The cognitive interviews have shown that participants interpreted the midpoint of the scale differently and used it for satisficing, which emphasises the problem of not having a definition for the middle score in a Likert scale. However, the decision was made to keep the response scale as it is, as it reflects the recommendations towards item design in the TPB manual.¹³⁹ This issue will need to be considered in the main study, and the results may need to be interpreted with more caution.

5.6.2 Strengths and limitations

The strength of carrying out cognitive interviews to test questionnaires is that it enables the testing of questionnaire items with a small sample of participants before its use with a larger sample. The data collected in this study allowed for exploration of the cognitive processes that participants used to answer the questions, their own interpretations of what items were asking, and to identify any problems with the questionnaire. Furthermore, PPI contributions from people with lived experiences of depression and long-term antidepressant use was useful for considering the design of the APPLAUD study and considering the best methods to encourage primary care patients to complete the questionnaires and ensure a suitable response rate.

Despite efforts to facilitate the recruitment process, the sample size was relatively small. However, a sample of five to 15 participants is a typical range in cognitive interview studies, and interviews should be conducted to the point that all problems with the questionnaire have been identified and addressed.¹⁸⁸ I found that changes made after the first round of testing reduced the likelihood of response process problems during the second round of testing, and no other major problems were identified. Another limitation is that the participants may have been more motivated to take part in the study as they had a greater understanding of their long-term antidepressant treatment compared to others on antidepressants, which meant they might have found it easier to answer the questions concerning their beliefs and attitudes towards long-term antidepressant use.

Another limitation was the characteristics of the sample that took part in the study. While all participants met the eligibility criteria, nine of the 10 participants were from a White ethnic background. Therefore, the views of minority ethnic participants may not be represented in these findings. Despite this, the age range, duration of depression and antidepressant treatment, and employment varied between participants. Education status did vary between participants, but the sample was relatively well educated, which is a limitation when recruiting university students. However, issues around health literacy were considered during discussions with my supervisors.

Only one participant had tried to stop taking antidepressants before. The sample could have represented patients with stronger beliefs that antidepressants are necessary for managing their depression compared to those who feel that antidepressants may not be the only way to manage their symptoms.

One other limitation is that participants completed the questionnaire in the presence of myself as the researcher who created the questionnaire. Despite reassuring participants that they could be honest when giving their opinions of the questionnaire, they may still have felt the need to provide feedback that would not hurt my feelings or to provide socially desirable answers. However, the appropriate steps to minimise this risk were implemented by establishing a rapport with participants prior to the interview, and reminding them that their honest opinions would enable the questionnaire to be amended to be as fit-for-purpose as possible for the main study. As I elicited both critical and constructive feedback from participants, I feel that this limitation was well mitigated.

5.6.3 Conclusion

The questionnaire appears to be an acceptable way of collecting information about beliefs, attitudes, and behavioural intentions towards long-term antidepressant use in patients with long-term depression. The second version of the questionnaire was used for the APPLAUD study, which is discussed in Chapter 6.

Chapter 6 Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression: The APPLAUD Study

6.1 Chapter overview

Chapter 4 outlined how I developed a questionnaire that measures patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant use; based on the findings from my critical interpretive synthesis (CIS) (Chapter 2) and models of health behaviour discussed in Chapter 3. The questionnaire was developed and refined through cognitive interviews with a small sample of participants who had been on antidepressants for nine months or longer, as reported in Chapter 5. The final version of the questionnaire was used as part of a mixed methods evaluation of patients' beliefs, attitudes, and intentions towards long-term antidepressant use in primary care. This chapter outlines the quantitative component of the Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (APPLAUD) study. The qualitative component of the study and how these findings relate to the quantitative findings are discussed in Chapter 7.

6.2 Aims and objectives

The main aim of the APPLAUD study was to investigate whether beliefs and attitudes towards depression and long-term antidepressant use predict intentions to stop or continue long-term antidepressant use; and whether these intentions translate into actual behaviour.

The objectives of the study were to:

- Identify what proportion of participants have intentions to stop or continue their long-term antidepressant use.
- Determine whether participants' intentions to continue or discontinue antidepressant use can be explained by the psychosocial constructs from the Theory of Planned Behaviour (TPB), Necessity-Concerns Framework (NCF), and deprescribing theory used to create the APPLAUD questionnaire.
- Establish which psychosocial constructs are more likely to predict intentions to stop or continue long-term antidepressant use.

- Generate an in-depth understanding of participants' beliefs and attitudes towards long-term antidepressant use and explore how and why these views may influence participants' decisions to stop or continue long-term antidepressant use.
- Explain unanticipated findings from the questionnaire data and explore whether participants have additional factors or processes that may influence their decision to stop or continue long-term antidepressant treatment.

The last two objectives are discussed in Chapter 7, as they were explored as part of the nested qualitative study.

6.2.1 Hypotheses

I generated hypotheses based on the findings from my CIS (Chapter 2), along with the assumptions of the TPB, NCF, and deprescribing theory, as discussed in Chapter 3.

I wanted to investigate participants' intentions to start to come off antidepressants. I hypothesised that greater reported intentions from participants to discontinue antidepressant treatment in the next six months are predicted by:

- More positive attitudes towards starting to come off antidepressants.
- Greater normative expectations or expectations of significant others around starting to come off antidepressants.
- Greater perceived behavioural control (PBC) over starting to come off antidepressants.
- Less perceived need for antidepressants.
- Greater concerns around taking antidepressants.
- Weaker beliefs that depression has a biological cause.
- Weaker beliefs that depression is a chronic illness.
- Weaker beliefs that antidepressants can help to control or cure their depression.
- Previous success in stopping antidepressants in the past.
- Lower severity of symptoms of depression at the time of completing the questionnaire.

Secondly, I wanted to investigate the actual behaviour of participants six months after completing the questionnaire. I wanted to see whether participants had either a face-to-face or telephone appointment with their GP, Nurse Prescriber, or Pharmacist; and whether they started to reduce their antidepressant medication.

I hypothesise that:

- Perceived behavioural control has a direct effect on actual behaviour.

- Participants with greater perceived control over antidepressant discontinuation are more likely to start reducing their antidepressant dose at six months.
- Participants with higher intentions to stop antidepressant treatment are more likely to have a face-to-face or telephone appointment with their GP or Nurse Prescriber to discuss potential discontinuation.
- Participants with greater intentions to stop antidepressant treatment are more likely to have reduced their antidepressant dose within six months.

Finally, as I have extended the theory of TPB and added the construct of Salient beliefs, I hypothesise that more favourable attitudes towards starting to come off antidepressants are predicted by:

- Weaker beliefs that depression has a physical cause.
- Weaker beliefs that depression has a chronic timeline.
- Less perceived need for antidepressants.
- Greater concerns around antidepressants.

6.3 Methods

6.3.1 Design

While I have explained in Chapter 1 that my philosophical approach to research is in line with critical realism,⁵⁷ I took a more pragmatist stance in my methodological approach to the APPLAUD study. Pragmatism acknowledges the relevance of both post-positive epistemologies within quantitative approaches and constructivist and interpretivist epistemologies within qualitative approaches to research.^{194,195} Adopting a pragmatist approach emphasises that research should be considered and evaluated according to how much it can achieve its desired external consequences.¹⁹⁵

A mixed methods design consisting of a prospective longitudinal quantitative study and a cross-sectional qualitative study was suitable for answering the study's aims and objectives. Collecting quantitative data was appropriate to test whether participants' beliefs and attitudes would predict intentions to try to stop long-term antidepressant use. In addition, using qualitative methods would allow for a more in-depth understanding of participants' experiences and views of long-term antidepressant use. Adopting a complementarity approach¹⁹⁶ using quantitative and qualitative methods would provide a more comprehensive understanding of participants' overall beliefs and attitudes towards long-term antidepressant use.¹⁹⁵ An embedded mixed methods design using a quantitative questionnaire survey study as the main component and embedding a

smaller qualitative interview study was used, with qualitative and quantitative data collection occurring concomitantly.^{195,197} Using an embedded design would allow me to qualitatively explore and explain any correlations between psychosocial constructs and intentions to stop antidepressant treatment. A diagram illustrating the study design is shown in

Figure 6.1. The quantitative and qualitative components were combined using the complementarity approach¹⁹⁶ to form an interpretation of patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant uses. This interpretation is described and discussed in more detail in Chapter 7.

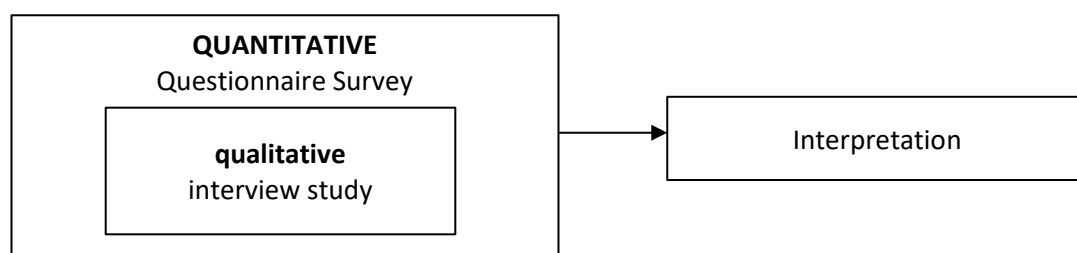


Figure 6.1 Embedded mixed methods design

6.3.2 Ethical and research governance approvals

The University of Southampton agreed to act as the research sponsor for the study (ERGO ID: 25136, approval received 4 May 2017), and the study received ethical approval by proportionate review conducted by Yorkshire & The Humber – Leeds East Research Ethics Committee (REC ID: 17/YH/0223), approval received 18 July 2017). The Health Research Authority (HRA) gave local approval on 20 July 2017 (IRAS ID: 222680).

As the National Institute for Health Research (NIHR) School for Primary Care Research (SPCR) partly funded my PhD, the study was eligible for registration on the NIHR national online portfolio of studies, along with financial and operational support from the NIHR Clinical Research Network (CRN). The study was adopted on the NIHR Portfolio, and Wessex: CRN acted as the lead research network.

Service support costs of £128.53 were agreed with the CRN to reimburse practices for conducting database searches to identify potential participants and the mailout.

6.3.3 Setting

I recruited participants through primary care practices, as most patients on long-term antidepressant treatment are managed in primary care.⁶ Moreover, as practices would be able to

conduct databases searches of medical records, I felt it would be the most feasible and accurate way of identifying patients in receipt of antidepressant prescriptions.

6.3.3.1 Identifying GP practices

General practices were identified in Hampshire, Dorset, Wiltshire, Bristol, and South Gloucester, accessed through CRN: Wessex and CRN: West of England. I asked both CRNs to send out information about my study to research-active practices, inviting them to respond directly to me if they wished to express an interest in taking part in the study. Once I had received an expression of interest from a practice, I spoke with them over the telephone to provide more detail about the study.

6.3.3.2 Identifying participants

Practices were asked to conduct a database search to identify patients over the age of 18 who had been continuously receiving antidepressant prescriptions for two years or longer. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5),¹⁹⁸ long-term depression is classified as experiencing symptoms of depression for at least two years. Practices were given both a list of Read¹⁹⁹ and British National Formulary (BNF)²⁰⁰ antidepressant codes for diagnoses and symptoms of depression to conduct the search, minimise the risk of missing eligible patients, and ensure consistent searching strategies between practices. GPs were asked to screen the list of patients identified through the electronic search to ensure that ineligible or unsuitable patients were not asked to participate in the study.

The eligibility criteria are listed in Table 6.1. Participants were not excluded based on their severity of depression or if they had any comorbid physical conditions.

Table 6.1 Study inclusion and exclusion criteria

Inclusion criteria
<ul style="list-style-type: none">Adults over the age of 18Continuously receiving antidepressant prescriptions for depression for two years or longer
Exclusion criteria
<ul style="list-style-type: none">Antidepressant prescribed for treatment of conditions other than depression (e.g. tricyclic antidepressant use for pain)Mainly have depression managed in secondary careHave a serious psychiatric condition (e.g. psychosis, comorbid dementia, significant substance misuse) that makes depression a secondary rather than primary diagnosisAre at risk of suicide/self-harm and need urgent referral to secondary careAre terminally ill, lacking capacity, or deemed unsuitable after screening by a GP

6.3.4 Recruitment procedure

Practices conducted the database search, and a GP screened the list of identified patients to check suitability and exclude any patients that did not meet the eligibility criteria. Patients identified through the database search were sent a questionnaire pack in the post by their GP practice. Each pack had a unique ID code attributed to it. Practices were required to send screening logs indicating the gender and age of the patients who were sent packs to see whether the characteristics of my recruited sample were representative of the patients identified through the database searches.

The questionnaire pack (Appendix L) included:

- A cover letter (on practice headed paper) inviting patients to take part in the study.
- A participant information leaflet (PIL) providing details about the study.
- A questionnaire booklet.
- A consent form for their GP practice to complete a notes review at six months.
- Two FREEPOST envelopes addressed to me for return of the consent form and questionnaire.

If patients were interested in taking part in the study, they had the option to complete the questionnaires either by post or online. I decided that giving participants the additional option to complete the questionnaire online would be a helpful method, as it is a cost- and time-effective way of collecting survey data.²⁰¹ The different modes in which questionnaires are administered may affect both measurement- and non-measurement errors,^{201,202} so I felt that implementing a concurrent mixed-mode design could help reduce coverage bias and reduce non-response.²⁰³ This was supported by comments from participants who took part in the cognitive interview study

(Chapter 5), who felt that giving a choice of completing the questionnaire by post or online may be beneficial to obtain a better response rate.

During the early part of the recruitment stage of the study, the response rate was just under 10%. Evidence suggests that response rates to postal questionnaires may be increased by using follow-up contact.²⁰⁴ I amended the protocol for practices to send reminder letters to patients that had previously received the questionnaires in the post, reminding them of the study and inviting them to return the questionnaires (Appendix N).

6.3.4.1 Consent

As my study was approved through proportionate review, completion and returning of the postal/online questionnaire to the researcher indicated consent on behalf of the participant (implied consent), as per HRA guidance.²⁰⁵ The PIL included a lay summary highlighting the purpose of the research and why the person was approached to take part. It outlined what the study involved and information about the ethics and governance of the study. Participants had the option to contact me by telephone or email if they had any questions about the study before completing the questionnaires.

Participants were required to provide written consent to indicate that they were happy for their GP practice to complete a notes review of their medical records at six months, to determine whether they had been for an appointment to review their antidepressant use or begun discontinuation of their antidepressant medication. Participants were also asked to indicate if they were happy to be contacted about taking part in the qualitative interview study. The consent form was returned separately to the questionnaire booklet for data protection purposes.

6.3.4.2 Postal Questionnaires

Participants who completed the questionnaire booklet were asked to return it using one of the FREEPOST envelopes included in the pack. Each questionnaire booklet had a unique five-digit participant ID number, with the first two numbers identifying the GP practice the participant was registered with. Once I received the completed questionnaire booklet and consent form, I notified the practice that the patient had completed the questionnaire and asked them to mark it on their record to conduct a notes review at six months.

6.3.4.3 Online Questionnaires

Participants could complete the questionnaire online using the University of Southampton's iSurvey website (www.isurvey.soton.ac.uk). iSurvey is an online survey platform that uses secure encryption to ensure that participant data cannot be intercepted by third parties. Participants

could log onto the website and register using their unique participant ID number. Once logged on, participants had the opportunity to re-read the PIL before completing the questionnaires. As with the postal questionnaires, I notified the relevant practice once a patient had completed the questionnaires online.

6.3.5 Measures

This section describes the questionnaires that were included in the booklet for participants to complete.

6.3.5.1 The APPLAUD questionnaire

Participants were asked to complete the APPLAUD questionnaire that included questions about beliefs, attitudes, and intentions towards starting to come off antidepressant treatment in the next six months. The development of these items is discussed in more detail in Chapter 4. Items measuring intentions, attitudes, subjective norms and control beliefs towards starting to come off antidepressants were based on the TPB.^{60,139} Participants were asked about their beliefs about antidepressants, using an adapted version of the Beliefs about Medicines Questionnaire (BMQ-Specific)¹⁷⁵ and their attitudes towards their current antidepressant use using modified items from the PATD Questionnaire.¹⁷⁷ The final question was an optional free-text item for participants to offer any additional comments that they felt would be useful for me to know. The optional free-text item was included based on the contributions from participants from the cognitive interview study (Chapter 5), who had lived experiences of long-term antidepressant use. Using the feedback from participants meant that the design aspect of my research was being carried out 'with' members of the public, one of the key considerations in using Patient and Public Involvement (PPI) to improve the quality and relevance of research.²⁰⁶

6.3.5.2 The Beliefs about Depression questionnaire

The Beliefs about Depression Questionnaire (BDQ) is a validated 52-item questionnaire that measures illness beliefs about depression.⁴² The questionnaire was developed using Leventhal's Common Sense Model (CSM)¹²¹ of illness representations (identity, consequences, timeline, control/cure and cause); items from the Revised Illness Perception Questionnaire (IPQ-R)²⁰⁷; and characteristics of depressive symptoms outlined in the International Classification of Diseases (ICD-10)²⁰⁸ and DSM-5.¹⁹⁸ The questionnaire includes dichotomous (yes/no) and six-point Likert response items to identify which symptoms patients believe are related to their depression and to identify how much they agree or disagree about factors that are related to the cause, timeline, consequences, and control/cure of their depression. This questionnaire was included to

determine whether particular illness beliefs on long-term antidepressant use may predict intentions to stop or continue treatment.

6.3.5.3 Patient Health Questionnaire

The Patient Health Questionnaire (PHQ-8)²⁰⁹ is a validated eight-item questionnaire to measure current symptoms and severity of depression. The questionnaire consists of eight items that asks patients how often they have been bothered by particular ‘problems’ (symptoms of depression) over the last two weeks. Participants indicate their response using a four-point Likert scale: ‘*Not at all*’, ‘*Several days*’, ‘*More than half the days*’, and ‘*Nearly every day*’. I included this questionnaire as *Symptom severity* was a construct I thought would predict intentions to start to come off antidepressants. The PHQ-8 asks the same questions to measure depressive symptom severity as the PHQ-9,¹⁹⁰ a validated questionnaire used in current clinical practice, but excludes question nine, which assesses thoughts of harm or suicidal ideas. I excluded this item as I would not have been able to carry out the necessary procedure to notify GPs that participants were having these thoughts in a timely manner. The omission of item nine only has a small effect on scoring, and validation studies²¹⁰ state that identical thresholds for scoring are used for both the PHQ-8 and PHQ-9 questionnaires.²⁰⁹

6.3.5.4 Past History of Depression Questionnaire

The Past History of Depression Questionnaire is a bespoke questionnaire that asks participants about the duration of their depression, antidepressant information, duration of antidepressant treatment for their current episode of depression, and any instances of successful antidepressant-free episodes.

6.3.5.5 Demographic Questionnaire

A bespoke 11-item demographic questionnaire was used to collect participant characteristics on gender, age, ethnicity, marital status, number of dependants, level of education, and occupation.

A full copy of the APPLAUD questionnaire booklet, can be found in Appendix M.

6.3.5.6 Outcome measures

The primary outcome was participants’ intentions to start to come off antidepressants, which was measured by calculating a mean score of the three intention items from the APPLAUD questionnaire (*I expect/want/intend to start to come off antidepressants within the next six months*).

For the outcome of behaviour, participants were asked to provide consent for their medical records to be accessed six months after completing the questionnaire. The medical record reviews (Appendix O) were carried out to measure the proportion of participants who attended a GP, nurse prescriber, or other health professional appointment to review their mental health and determine whether they had started to discontinue treatment, indicated by a reduction in their prescribed antidepressant dosage. Consultations with a health professional that included any reference towards mood, depression or antidepressant therapy have been considered as review consultations elsewhere in the literature.²⁵ Additionally, the notes reviews identified whether participants requested prescriptions through a face-to-face appointment, through reception, or online.

One outcome variable from the notes reviews was to identify any change in antidepressant prescription dosage within the six-month timeframe of completing the questionnaire. A reduction would indicate that participants had engaged in the health-related behaviour as defined within the construct of the TPB (i.e., had started to discontinue antidepressant use). A secondary outcome was whether participants had an appointment with their GP to discuss possible discontinuation within the six-month timeframe.

6.3.6 Sample size estimate

The TPB manual states that a sample size of 80 would be acceptable if a moderate effect size of 0.3 was expected following multiple regression analysis.^{139,211} However, I was uncertain around the reliability of my variables that I had created, and I wanted to account for the potential of a small effect size. Furthermore, as I was extending my model by adding predictors, I wanted to avoid overfitting (where the analysis includes too many variables relative to the sample size) and have the desired power of 0.80.²¹² Therefore I used a rule of thumb sample size estimate based on Green's²¹³ procedure of $N \geq (8/f^2) + (m - 1)$, where f^2 indicates the effect size and m indicates the number of predictor variables.²¹² Using this rule of thumb calculation assumed that approximately 405 cases would be required for a multiple regression analysis. I also felt that this sample size was feasible to obtain in a primary care setting (assuming a 10% response rate) and within the timeline of my PhD.

6.3.7 Analytic procedure

6.3.7.1 Data cleaning and preparation

I manually entered the data from the postal questionnaires and the notes reviews into the Statistical Package for Social Sciences (SPSS) (version 26),²¹⁴ statistical analysis software. I

imported online questionnaire data directly from iSurvey into SPSS. To ensure accuracy, I double entered 10% of the data and ran frequency reports to check that my data were within the expected ranges, identifying outliers presented in histograms. Data were tested to check they met relevant assumptions required to run specific tests (outlined below in the findings).

6.3.7.2 Descriptive statistics

Frequency distributions and means were calculated from the screening log data received from practices and data provided by participants when completing the demographic questionnaire. Frequency distributions and means were calculated for depression symptom severity, and information on participants' antidepressant use and history of depression.

6.3.7.3 Attitudes, subjective norms, PBC, and intentions towards antidepressant discontinuation

The APPLAUD questionnaire items that were based on the constructs of the TPB and had reversed positive and negative endpoints (items 5, 6a, 6c, 6d, 6f, 6g, 8) were transformed so that stronger intentions and beliefs towards discontinuing antidepressants were scored more highly on the Likert scale.

I then tested the items within each of the constructs for internal consistency, using Cronbach's alpha²¹⁵ to assess the overall reliability of the scale, the corrected item-total correlation to examine the correlations between each item and the total score for the questionnaire, and the alpha if the item was deleted from the subscale, should the correlation be significantly decreased by a particular item. Cronbach's alpha correlations of $\alpha > .60$ suggest good internal consistency for TPB constructs.^{139,163}

Composite variables for the direct measures were calculated by creating a mean score for the items relating to intention, attitude, subjective norm, and perceived behavioural control.

6.3.7.4 Necessity beliefs and concerns about antidepressants

Items derived from the BMQ-Specific were used to calculate total scores for necessity beliefs (items 12, 14, 15, 18, 21) and concerns (items 13, 16, 17, 19, 20) about antidepressants. The total scores for the necessity and concerns scales could range from 5 to 25 each. The scores are interpreted as continuous scales, where higher scores indicate stronger beliefs in the necessity of or greater concerns about taking antidepressants.

Items concerning the necessity of antidepressants and items measuring concerns about taking antidepressants were tested for internal consistency by calculating Cronbach's alpha values. A

Pearson correlation was conducted to determine whether there was a linear relationship between beliefs around the necessity of and concerns around antidepressant treatment.

6.3.7.5 Attitudes towards antidepressant discontinuation

As discussed in Chapter 3, the PATD Questionnaire was developed to be exploratory by design,¹⁷⁷ with no scoring system attributed to the questionnaire. The multiple-choice items were used to provide descriptive data about patient preferences towards the deprescribing of antidepressants.

The two items asking whether participants had tried to stop taking antidepressants with or without their doctor's knowledge were used as dichotomous variables in the *Past behaviour* construct of the extended model.

6.3.7.6 Beliefs about depression

Items from the BDQ measured participants' beliefs about depression in line with the dimensions of the CSM. Individual items were grouped into relevant subscales, and mean scores were calculated for each subscale. The subscales relating to each dimension of the are shown in Table 6.2.⁴²

Table 6.2 CSM dimensions and related subscales from the BDQ

CSM dimension	Subscale
Identity	Symptom count
Cause	Past events Personal flaws Work Physical causes Bereavement
Time	Chronic timeline Cycling timeline
Cure/control	Talking therapy Self-efficacy – thoughts Alternative therapy Self-efficacy – activity GP Medication No control
Consequences	Stigma Avoidance Spirituality/Strength

6.3.7.7 Salient beliefs in predicting attitudes towards antidepressant discontinuation

As I wanted to investigate the extent to which salient beliefs around depression and antidepressants predicted attitudes towards discontinuing antidepressants, I included the *physical cause*, *chronic timeline* and *medication to control/cure* variables of the BDQ and the total necessity and total concern scores from the BMQ-Specific into the *Salient beliefs* predictor variable. I measured the association between salient beliefs and attitude by running a multiple linear regression.

6.3.7.8 Predicting intentions and behaviour

I conducted a hierarchical multiple linear regression analysis to determine predictors of intentions towards stopping long-term antidepressant use. Multiple linear regression examines whether a combination of independent variables have linear relationships with a dependent variable and the extent of these relationships in predicting outcomes.^{212,216} I conducted a hierarchical regression to determine how well the constructs of the TPB model predicted intentions to start to come off antidepressants, then investigated whether adding other theoretical constructs, in order of priority, would strengthen the model. The first predictors of intention included in the regression analysis are shown in Figure 6.2.

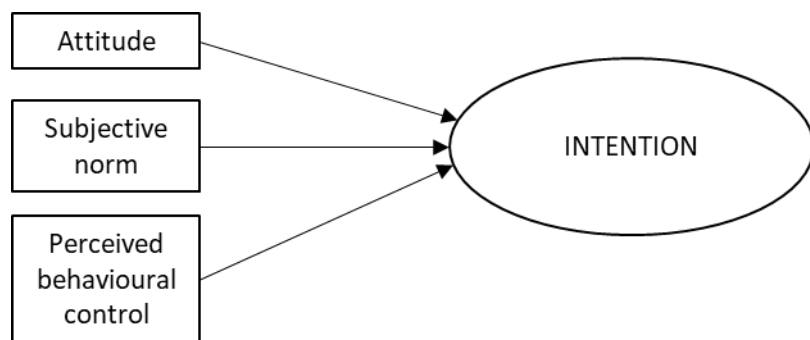


Figure 6.2 Step 1 for the hierarchical multiple regression

Step 2 of the regression analysis (Figure 6.3) added the construct of *Salient beliefs* as I wanted to see whether these beliefs directly contributed to predicting intentions towards stopping antidepressants.

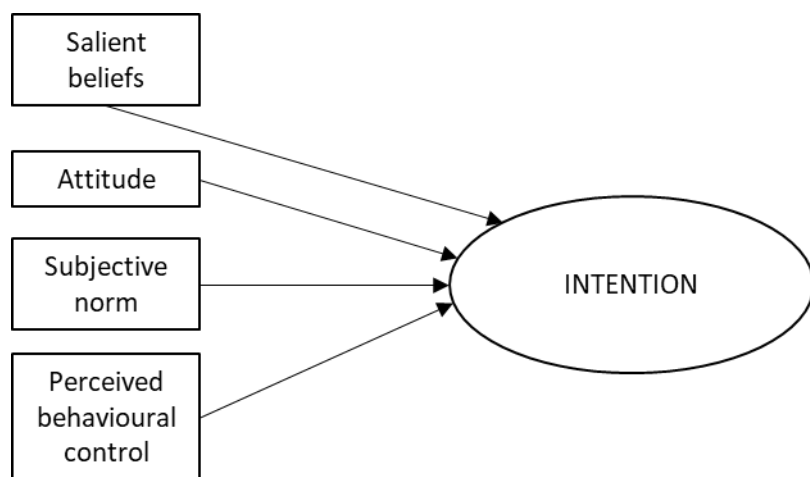


Figure 6.3 Step 2 for the hierarchical multiple regression

For the third step of the regression (Figure 6.4), I added the construct of *Past behaviour*, which included two dichotomous variables from the adapted PATD Questionnaire asking participants if they had tried to stop taking antidepressants with or without their doctor's knowledge. I also included the dichotomous item from the Past History of Depression Questionnaire that asked if participants had successfully stopped taking antidepressants before.

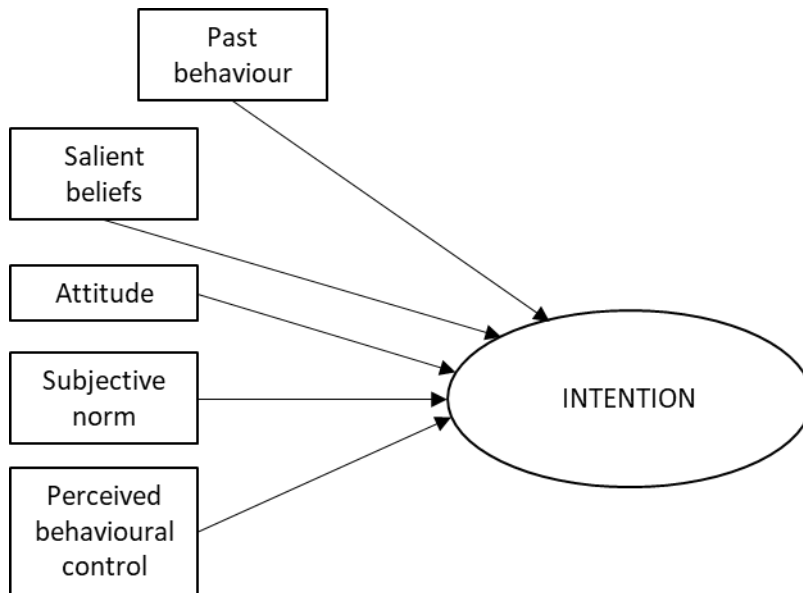


Figure 6.4 Step 3 for the hierarchical multiple regression

The fourth step of the analysis added the variable measuring participants' current depressive *Symptom severity* as assessed by PHQ-8²⁰⁹ scores.

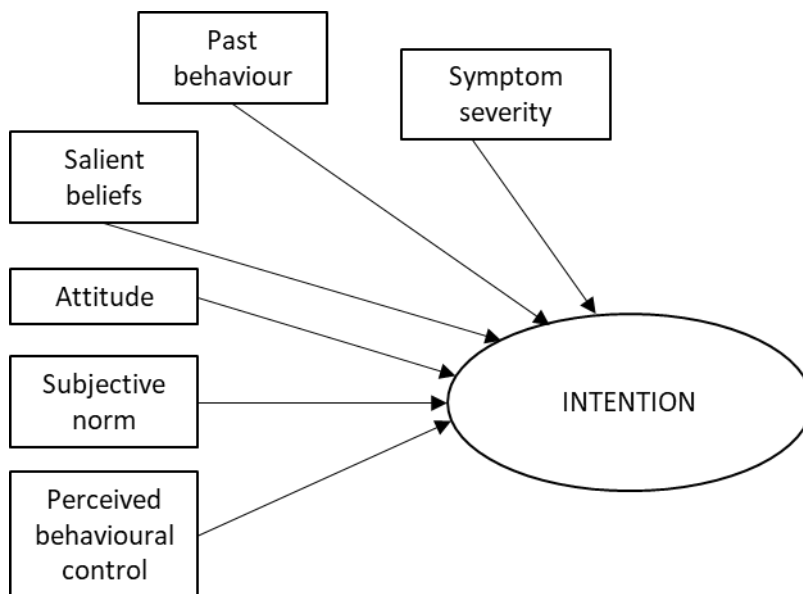


Figure 6.5 Step 4 for the hierarchical multiple regression

The final step of the regression analysis added the self-reported duration of participants' *Current antidepressant duration* (Figure 6.6).

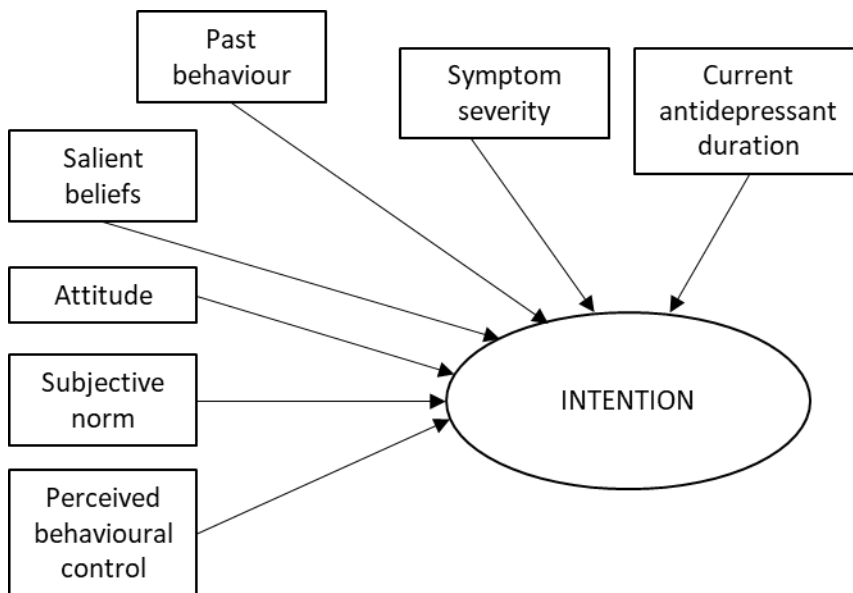


Figure 6.6 Step 5 for the hierarchical multiple regression

6.3.7.9 Predicting behaviour

I hypothesised that participants with greater intentions to stop antidepressant treatment are more likely to reduce their antidepressant dose within six months of completing the questionnaire. I also hypothesised that PBC directly affects actual behaviour. Behaviour (determined by a change antidepressant dose) was originally categorised into five outcomes: *stopped*, *reduced*, *no change*, *change in antidepressant type*, and *increased*. However, due to the lack of notes review data received, I pooled the outcomes to create a dichotomous outcome variable for the regression analysis. Participants who reduced their antidepressant dose or stopped completely were categorised as *reduced*, and participants who did not change their dose, changed antidepressant type, or increased their dose were categorised as *did not reduce*. A binomial logistic regression was conducted to evaluate the odds of whether a participant reduced or did not reduce their dose based on their intentions and perceived behavioural control towards discontinuing antidepressants (Figure 6.7).

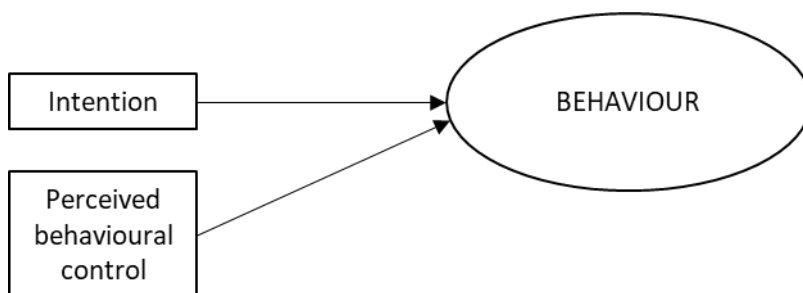


Figure 6.7 Model for predicting behaviour

6.4 Results

6.4.1 Participant recruitment

The study's recruitment of practices commenced in November 2017, and participant recruitment started in February 2018 and ended in February 2019. Twenty GP practices from CRN: Wessex and CRN: West of England were recruited to the study. A flow diagram detailing participant recruitment is shown in Figure 6.8. From the 20 practices, 6,680 patients were identified as eligible to take part in the study. Each practice was asked to send packs to up to 140 patients, as CRN: Wessex felt a response rate of around 15% could be expected by using postal and online questionnaires in depression research. A total of 2,347 packs were sent to potential participants, and 397 responses from patients were received (16.9%). Of the 397 questionnaires, 376 (94.7%) were returned by post, and 21 (5.3%) were completed online. Twenty-two patients returned questionnaires indicating that they did not wish to participate in the study, and 97 postal questionnaires were excluded from the study. Most patients were excluded based on the self-report item in the Past History of Depression Questionnaire, asking them how long they had been taking antidepressants for their current episode of depression ($n = 68$). Forty patients reported antidepressant treatment duration of less than two years ($n = 40$), not providing any information ($n = 13$), or data that were unclear ($n = 15$), for example: “*don’t know*”, “*can’t remember*”, or “*years*”. One person returned the questionnaire but later requested to withdraw from the study, including their questionnaire data, with no reason given.

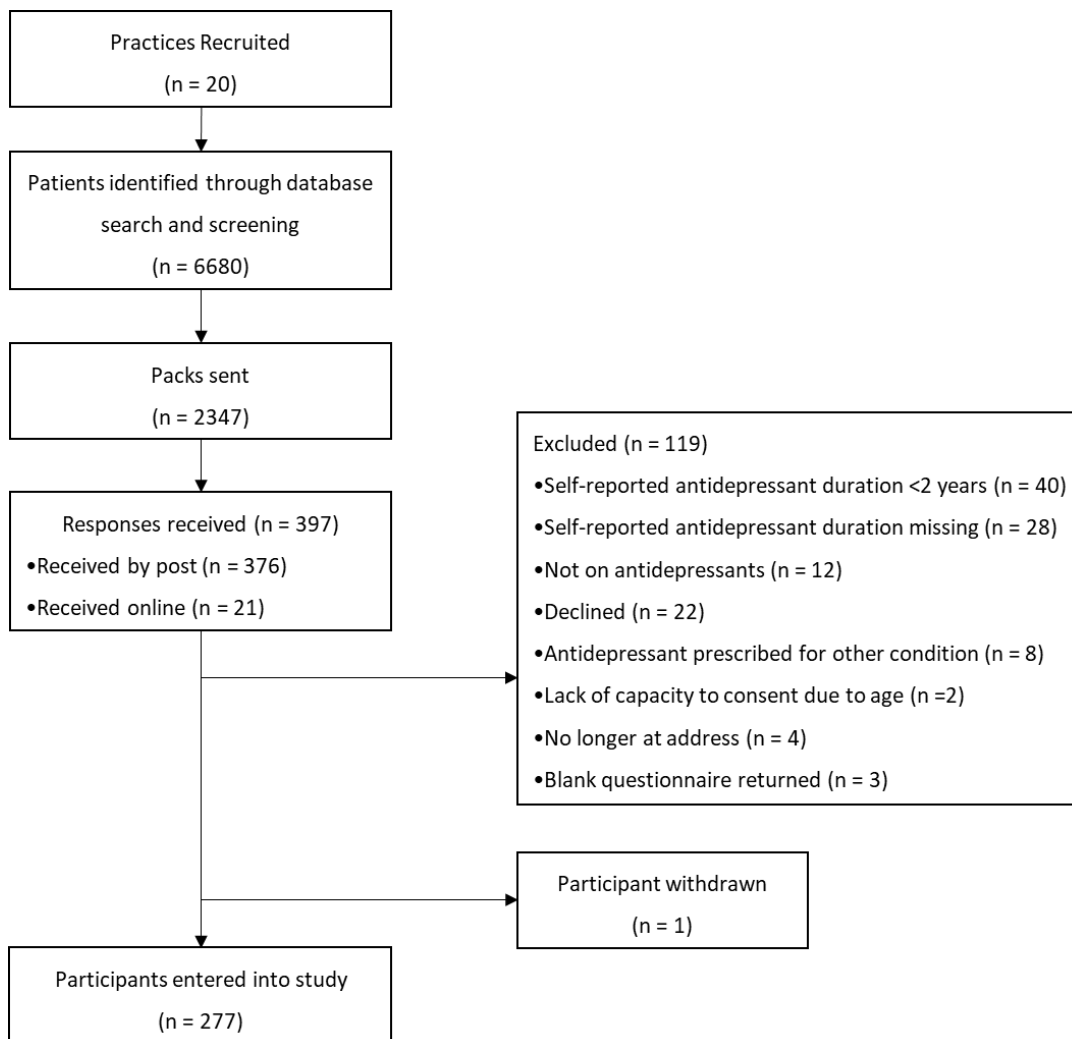


Figure 6.8 Flow diagram showing participant recruitment

Fifteen out of the 20 practices sent screening logs providing information regarding the gender and age of patients who were sent packs. Most patients approached were female ($n = 1288$, 70.9%), with a mean age of 55.5 years ($SD = 15.3$, range = 20 - 96).

A breakdown of participant recruitment to the study is provided in Table 6.3. The overall response rate among those approached was 16.9%. Two hundred and seventy-seven (69.8%) participants (11.8% of those approached) were entered into the study, and 189 (68.2%) notes reviews were received for included participants who gave consent for their relevant patient records to be shared (8.0% of those approached). One participant who completed the questionnaire online entered their Participant ID number incorrectly and could not be linked to a practice to request their notes review data. Four practices did not return notes reviews to me, despite contacting them several times requesting this information. Due to the Covid-19 pandemic affecting practices' capacity to continue research, I stopped contacting practices to request data in March 2020.

6.4.2 Data cleaning and missing data

Data entry errors were minimal, and any outliers were checked against the original questionnaires and corrected. Several questionnaires had data that were either missing or unclear, so I did not include this data. By running a Missing Value Analysis procedure in SPSS and discussing my data with a medical statistician, we decided that the data could be missing not at random (MNAR). This is because data for the outcome variable (change in antidepressant dose) were only available for 175 (63.2%) of participants, with 153 participants (87.4%) showing no change in antidepressant prescription six months after completing the questionnaire. Moreover, initial exploration of the data indicated a strong positive skew of mean intention scores. Therefore it would not have been possible to account for any systematic difference between the missing and observed values using the data I had collected.²¹⁷ Multiple imputation is a process of creating several imputed data sets based on the predictive distribution from observed values and is an accepted approach to handling missing data.^{212,218} However, as my data were MNAR and non-normal in their distribution, the medical statistician and I agreed that it would not be feasible to carry out multiple imputation as it would not be possible to account for differences between the observed and missing data and could lead to bias.²¹⁷ As such, data analysis was conducted using complete cases.

Table 6.3 Recruitment characteristics by practice

Practice ID	Eligible patients N	Packs sent N	Female N (%)	Mean Age (SD)(Range)	Responses received N (%)	Questionnaires included N (% responses received)	Notes reviews N (%)
01	1971	133	86 (64.7%)	56.5 (15.03) (20 - 89)	21 (15.8%)	9 (42.8%)	9 (100.0%)
02	595	140	-	-	18 (12.9%)	11 (61.1%)	11 (100.0%)
03	498	139	105 (75.5%)	55.5 (14.4) (22 - 94)	18 (12.9%)	16 (88.9%)	0 (0.0%)
04	1098	140	-	-	27 (19.3%)	18 (66.7%)	18 (100.0%)
05	395	140	99 (70.7%)	57.1 (16.1) (23 - 90)	15 (10.7%)	12 (80.0%)	6 (50.0%)
06	50	50	40 (80.0%)	45.3 (10.7) (22 - 65)	6 (12.0%)	5 (83.3%)	5 (100.0%)
07	123	123	77 (62.6%)	54.2 (12.6) (24 - 82)	26 (21.1%)	21 (80.8%)	0 (0.0%)
08	133	108	86 (79.6%)	58.3 (16.8) (20 - 92)	28 (25.9%)	22 (78.6%)	20 (90.9%)
10	200	138	94 (68.1%)	54.2 (16.3) (20 - 92)	31 (22.5%)	27 (87.1%)	19 (70.4%)
12	117	117	85 (72.6%)	53.1 (14.1) (21 - 87)	24 (20.5%)	21 (87.5%)	21 (100.0%)
13	119	119	89 (74.8%)	60.3 (14.1) (25 - 91)	28 (23.5%)	21 (75.0%)	11 (52.4%)
14	259	140	95 (67.9%)	47.1 (12.1) (21 - 74)	23 (16.4%)	12 (52.2%)	10 (83.3%)
15	200	140	93 (66.4%)	58.3 (16.2) (20 - 89)	25 (17.9%)	18 (72.0%)	15 (83.3%)
16	127	127	82 (69.2%)	59.7 (15.2) (32 - 91)	9 (7.09%)	7 (77.8%)	0 (0.0%)
17	342	140	107 (76.4%)	57.7 (16.7) (21 - 94)	28 (20.0%)	17 (60.7%)	9 (52.9%)
18	84	84	61 (72.6%)	58.8 (12.7) (34 - 95)	18 (21.4%)	9 (50.0%)	6 (66.7%)
19	119	119	89 (74.8%)	53.3 (15.7) (21 - 96)	26 (21.8%)	20 (76.9%)	19 (95.5%)
20	40	40	-	-	3 (7.5%)	2 (66.7%)	2 (100.0%)
21	70	70	-	-	6 (8.6%)	0 (0.0%)	0 (0.0%)
22	140	140	-	-	16 (11.4%)	8 (50.0%)	8 (100.0%)
Unknown	-	-	-	-	1	1 (100.0%)	0 (0.0%)
Total	6680	2347	1288 (70.9%)	55.6 (15.3) (20 - 96)	397 (16.9%)	277 (69.8%)	189 (68.2%)

6.4.3 Participant characteristics

Participant characteristics are provided in Table 6.4. One participant did not complete the demographic questionnaire. Of the 277 participants recruited, 187 (67.5%) were female, and the mean age was 57.2 years (SD= 14.6). The sample was predominantly white (n= 273, 98.5%), and 190 participants (68.6%) were married or cohabiting. In terms of education, 101 participants (36.4%) reported achieving a school-level education, and 135 participants (48.7%) had achieved higher education and vocational qualifications. One hundred and forty-two participants (51.3%) were in employment at the time of completing the questionnaire, and 84 participants (30.3%) were retired.

An independent sample t-test found no significant difference between the mean age of respondents (56.9 years) and non-respondents (55.4 years), $t= 1.43$, $p= 0.15$, 95% CI -0.53, 3.38). A Pearson Chi-Square test showed no significant difference between the percentage of female respondents (67.5%) and non-respondents (72.0%), $\chi^2= 2.35$, $p= 0.13$.

Table 6.4 Participant demographic characteristics

Variable		N (%)
Age	Mean years (SD)	57.2 (14.6)
	Range	23.3 – 92.5
Gender	Female	187 (67.5%)
	Male	90 (32.5%)
Ethnicity	White	273 (98.6%)
	Black Caribbean	1 (0.4%)
	Asian British	1 (0.4%)
	Mixed Race	1 (0.4%)
	Missing	1 (0.4%)
Marital status	Married/Cohabiting	190 (68.6%)
	Separated/Divorced	33 (11.9%)
	Widowed	19 (6.9%)
	Single	34 (12.3%)
	Missing	1 (0.4%)
	Households with dependents at home	120 (43.3%)
Education level	None	30 (10.8%)
	CSE/NVQ Level 1	16 (5.8%)
	GCSE/O Level/NVQ Level 2	47 (17.0%)
	A Level/BTEC/NVQ Level 3	38 (13.7%)
	HNC/HND/City & Guilds/Teaching Qualification/NVQ Level 4	36 (13.0%)
	Degree/Higher Degree/NVQ Level 5	62 (22.4%)
	Vocational Qualification	37 (13.4%)
	Missing	11 (4.0%)
Work status	Employed (Full/Part time/Self-employed)	142 (51.3%)
	Volunteer	5 (1.8%)
	Unemployed	6 (2.7%)
	Permanently Sick/Disabled	21 (7.6%)
	Retired	84 (30.3%)
	Homemaker	15 (5.4%)
	Student	2 (2.6%)
	Missing	2 (2.6%)

Characteristics around antidepressant use and depression are presented in Table 6.5. The most frequently prescribed antidepressants were the selective serotonin reuptake inhibitors (SSRIs) Citalopram (n= 88, 31.7%) and Sertraline (n= 74, 26.7%). Participants self-reported a median current antidepressant duration of 10 years (IQR 144).

Of the 255 participants who completed the PHQ-8 questionnaire, the mean score was 8.90 (95% CI 8.06, 9.74). Just under half (n= 109, 42.7%) had a score of ≥ 10 (moderate to severe depression), which typically indicates clinically significant depression.¹⁹⁰ A higher proportion of participants reported a score of 9 or lower (n= 146, 57.3%), indicating mild to minimal depression symptom severity.

In terms of previous attempts to stop taking antidepressants, just under half of the participants (n= 127, 45.8%) had attempted to stop taking antidepressants with their doctor's knowledge, compared to 97 participants (35.0%) who had tried to stop taking antidepressants without their doctor's knowledge. Ninety-two participants (33.2%) had not attempted to stop taking antidepressants at all, compared to 39 participants (14.0%) who had tried to come off antidepressant both with and without their doctor's knowledge. Eighty-one participants (30%) reported successfully stopping antidepressants in the past, with 71 (87.7%) reporting a median treatment-free duration of 3 years (IQR 8.8) before restarting treatment.

Table 6.5 Antidepressant treatment history and depression symptom severity

Variable		N (%)
Current antidepressant	Amitriptyline	5 (1.8%)
	Citalopram	88 (31.7%)
	Clomipramine	2 (0.7%)
	Dosulepin	1 (0.4%)
	Duloxetine	6 (2.2%)
	Escitalopram	5 (1.8%)
	Fluoxetine	33 (11.9%)
	Lofepramine	4 (1.4%)
	Mirtazapine	18 (6.5%)
	Paroxetine	11 (4.0%)
	Sertraline	74 (26.7%)
	Trazadone	1 (0.4%)
	Venlafaxine	25 (9.0%)
	Missing	4 (1.4%)
Age first prescribed antidepressants (N= 262)	Mean, Median (SD)	39.4, 38.00 (15.42)
Current antidepressant duration (months, N= 277)	Mean, Median (SD)	134.5, 120.0 (114.52)
Previous attempts to stop (N= 277)	With doctor's knowledge	127 (45.8%)
	Without doctor's knowledge	97 (35.0%)
Successful discontinuation (N= 270)		81 (30%)
Duration antidepressant-free (months, N= 71)	Median (SD)	36.00 (123.16)
Current depression symptom severity (N= 255)	Mean, Median (SD)	8.9, 8.0 (6.81)
	Minimal (0-4)	83 (30.0%)
	Mild (5-9)	63 (22.7%)
	Moderate (10-14)	49 (17.7%)
	Moderately severe (15-19)	34 (13.3%)
	Severe (20-27)	26 (10.2%)
	Missing	22 (7.9%)

6.4.4 Beliefs about depression

Most participants ($n=199$, 71.8%) identified their condition as 'depression', with most participants reporting that they experienced at least 8 out of 14 symptoms listed in the BDQ (Figure 6.9). The most common symptoms participants felt were part of their depression were tiredness ($n=213$, 76.9%), reduced energy ($n=207$, 74.7%), being unable to enjoy things ($n=202$, 72.9%), and a feeling of a black cloud hanging over them ($n=183$, 66.1%).

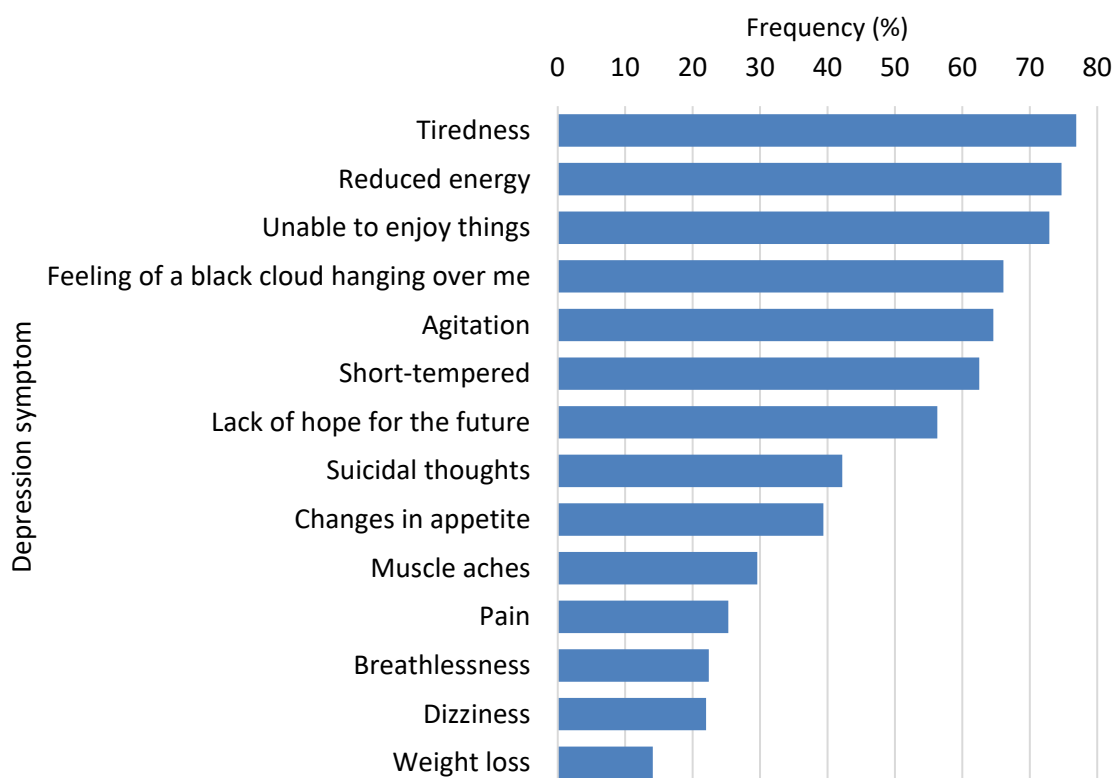


Figure 6.9 Prevalence of symptoms identified as depression

The mean scores for the variables measuring beliefs about depression are provided in Table 6.6. Most subscales related to the CSM dimensions¹²¹ had moderate to strong reliability, except for the items of *spirituality/strength* ($\alpha=0.23$) and *don't know* ($\alpha=0.37$). Most BDQ subscales had mean scores between 3 and 4, indicating that participants were neither in agreement nor disagreement with the belief statements. However, higher mean scores for the belief that depression was *chronic* ($M=4.65$, 95% CI 4.46, 4.84) and the belief that *medication* was needed to help control/cure depression ($M=5.12$, 95% CI 4.96, 5.28) indicated that participants slightly or moderately agreed with these belief statements. Mean scores for *physical causes* of depression ($M=2.88$, 95% CI 2.69, 3.07), *alternative therapy* to control/cure depression ($M=2.42$, 95% CI 2.24, 2.60) and *spirituality/strength* as a consequence of depression ($M=2.28$, 95% CI 2.11 - 2.44) were lower, indicating less agreement with these belief statements.

Table 6.6 Mean scores for variables from the BDQ

Variable	Items in subscale	N (%)	M	SD	95% CI		α
					Lower	Upper	
Cause							
Past events	3	226 (81.6%)	3.64	1.75	3.41	3.87	0.78
Personal flaws	4	208 (75.1%)	3.59	1.28	3.42	3.77	0.58
Physical causes	3	212 (76.5%)	2.88	1.40	2.69	3.07	0.49
Bereavement	1	244 (88.1%)	3.26	2.14	2.99	3.53	N/A ^a
Timeline							
Chronic	2	259 (93.5%)	4.65	1.52	4.46	4.84	0.92
Cyclical	2	239 (86.3%)	3.99	1.58	3.79	4.19	0.88
Cure/control							
Talking therapy	4	223 (80.5%)	3.79	1.40	3.61	3.98	0.83
Self-efficacy (thoughts)	3	231 (83.4%)	3.89	1.02	3.70	4.00	0.69
Alternative therapy	2	229 (82.7%)	2.42	1.41	2.24	2.60	0.89
Self-efficacy (behaviour)	2	236 (85.2%)	4.36	1.32	4.19	4.52	0.58
Medication	1	257 (92.8%)	5.12	1.28	4.96	5.28	N/A ^a
Don't know	2	192 (69.3%)	3.02	1.45	2.81	3.22	0.37
Consequences							
Stigma	3	238 (85.9%)	3.91	1.37	3.73	4.08	0.68
Avoidance	3	243 (87.7%)	3.70	1.64	3.49	3.91	0.86
Spirituality/strength	2	228 (82.3%)	2.28	1.26	2.11	2.44	0.23

^a Bereavement and Medication subscales comprise single items

6.4.5 Patient beliefs and attitudes towards long-term antidepressant discontinuation

Mean scores for beliefs and attitudes towards long-term antidepressant discontinuation are shown in Table 6.7. Scales measuring behavioural intention, attitude, and subjective norm were all found to have a Cronbach's alpha of $\alpha > 0.70$ or over, which demonstrates good internal consistency between the items for each construct.¹³⁹ Initially, the internal consistency of PBC items was low ($\alpha = 0.37$). Removing the item *Whether I start to come off antidepressants is entirely up to me* strengthened the reliability to $\alpha = 0.53$, so I decided to remove this item to calculate participants' mean PBC score. The mean score for intention was low ($M = 2.44$, 95% CI 2.23, 2.65), suggesting that most participants disagreed with the statements around intentions to start to come off antidepressants. Similarly, the mean subjective norm score was low ($M = 2.35$, 95% CI 2.21, 2.49), again suggesting disagreement with the statements that significant others believed participants should start to come off antidepressants.

Items for determining the necessity of antidepressants and concerns around taking antidepressants had good internal consistency ($\alpha = 0.85$ for necessity and $\alpha = 0.82$ for concerns). Pearson's correlation showed a weak but significant negative correlation between the necessity and concerns total scores ($r = -0.15$, $p < 0.05$).

Table 6.7 Mean scores for variables from the TPB questionnaire and BMQ-Specific, measuring beliefs and attitudes towards long-term antidepressant discontinuation

Variable	N (%)	M	SD	95% CI		α
				Lower	Upper	
Intention	272 (98.2%)	2.44	1.78	2.23	2.65	0.91
Attitude	205 (74.0%)	3.31	1.46	3.11	3.51	0.84
Subjective norm	252 (91.0%)	2.35	1.15	2.21	2.49	0.70
Perceived behavioural control	238 (85.9%)	3.78	1.20	3.63	3.94	0.53
Necessity	273 (98.6%)	13.7	4.02	13.24	14.20	0.85
Concerns	273 (98.6%)	8.09	4.38	7.57	8.61	0.82

Frequency distributions for the five-point Likert items derived from the PATD Questionnaire are found in Figure 6.10. Most participants ($n = 134$, 84.8%) either strongly agreed or agreed with the statement that they were comfortable with taking antidepressants, with 85.5% ($n = 236$) agreeing or strongly agreeing that their antidepressants were necessary. Nearly all participants ($n = 248$, 90.2%) agreed with the statement that they understood the reason why they were prescribed antidepressants. Conversely, most participants disagreed or strongly disagreed with the statement that they were taking antidepressants they no longer needed ($n = 189$, 68.5%) and that their antidepressants were giving them side effects ($n = 163$, 59.0%). Participants showed uncertainty in their agreement with statements around their willingness to stop taking antidepressants if their doctor said it was possible ($n = 100$, 36.2%), whether they would like to stop taking their antidepressants ($n = 67$, 24.2%) and managing their depression in other ways ($n = 83$, 37.2%).

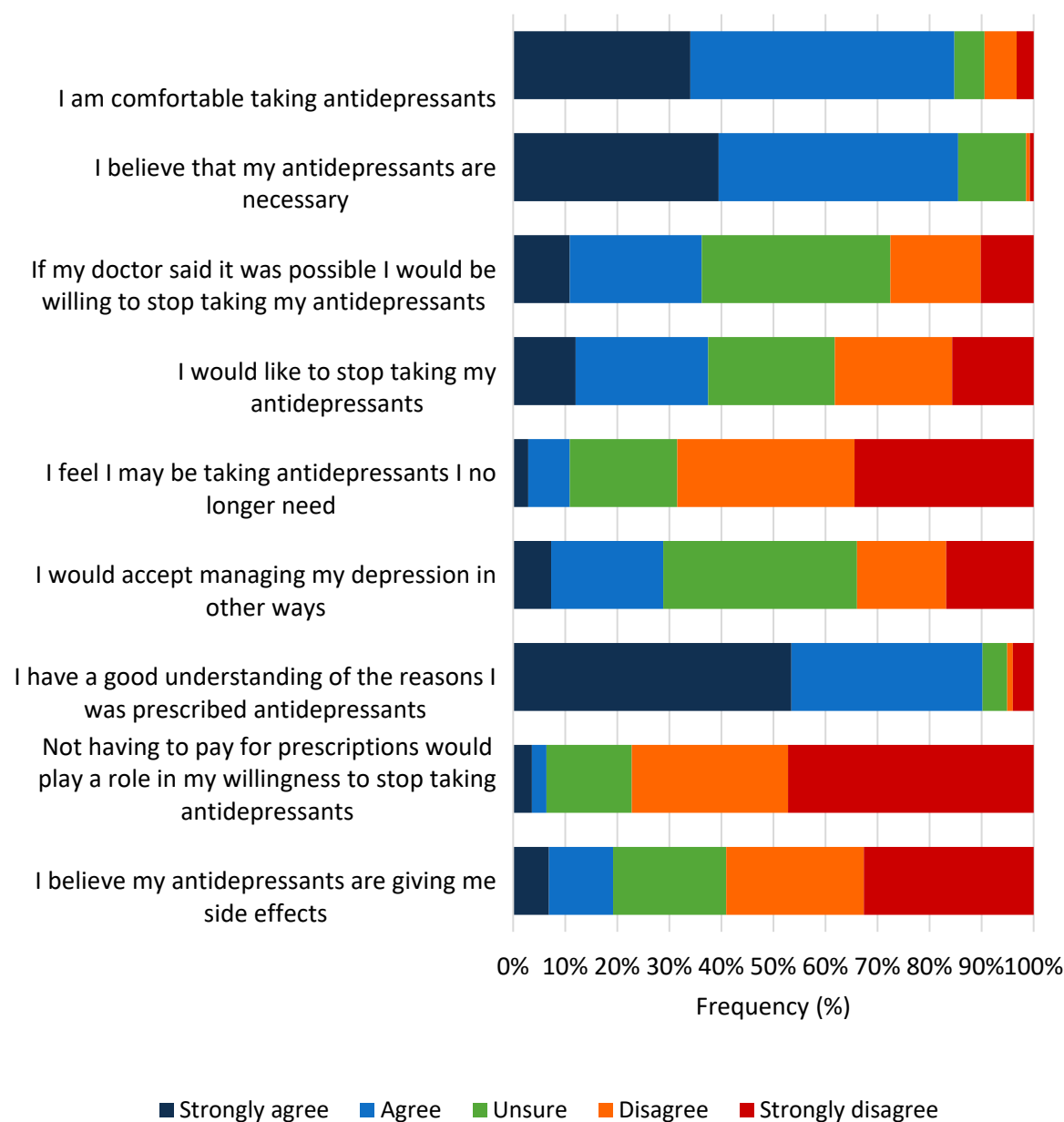
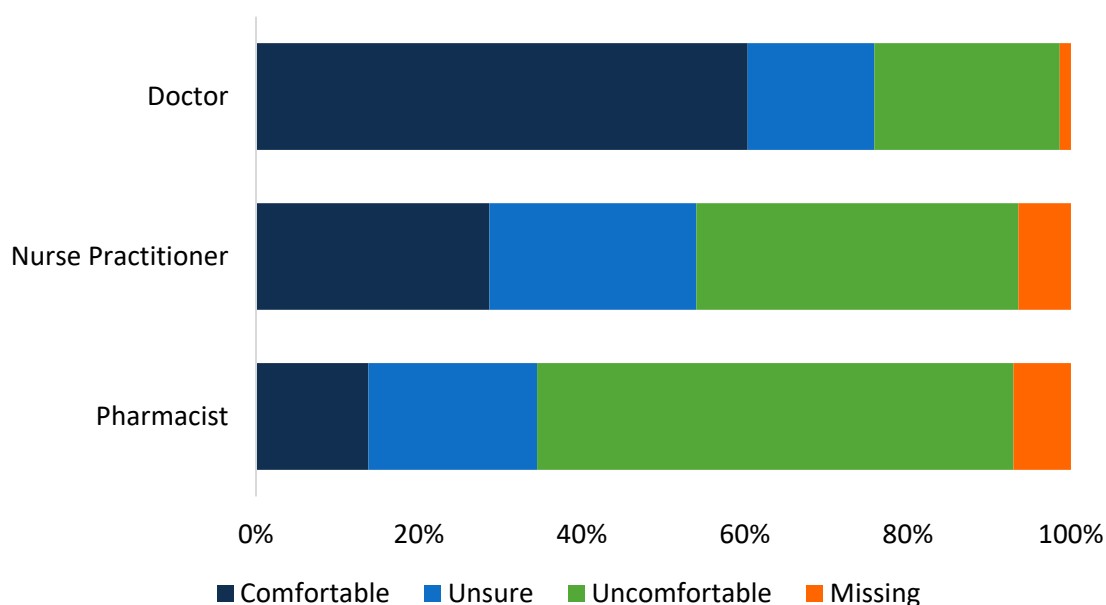


Figure 6.10 Attitudes towards discontinuing antidepressants taken from the PATD Questionnaire

If participants were to start to come off antidepressants (Figure 6.11), over half ($n = 167$, 60.3%) reported they would be comfortable if their doctor were involved with the process as well as providing follow-up. Conversely, participants would feel more uncomfortable if either a Nurse Practitioner ($n = 109$, 39.4%) or Pharmacist ($n = 161$, 58.1%) provided support and follow-up. Most participants ($n = 240$, 87.3%) indicated a preference for face-to-face follow-up appointments with their GP.

Figure 6.11 Participants' attitudes towards health professionals providing support during antidepressant discontinuation taken from the PATD Questionnaire



6.4.6 Prescribing data at six months

Table 6.8 outlines the prescribing outcome at six months for 175 participants (63.2%). The large majority (n= 153, 87.4.%) did not change their antidepressants dose within six months of completing the questionnaire, compared to 16 participants (9.1%) who reduced their dose or stopped altogether.

Table 6.8 Prescribing data at six months taken from notes reviews

Outcome	N (%)
Change in prescription (N= 175)	
Increase	4 (2.3%)
No change	153 (87.4%)
Reduce	14 (8.0%)
Stopped	2 (1.1%)
Changed antidepressant type	2 (1.1%)
Prescription request method (N= 179)	
Appointment	26 (14.5%)
Reception	106 (59.2%)
Online	42 (23.5%)
Telephone	3 (1.7%)
Repeat box	2 (1.12%)

Of the 14 participants who reduced their dose, 11 had a face-to-face appointment with their GP, and one participant had a medication review with a pharmacist at their practice. One participant did not have any appointments with a health professional, and no data were provided concerning appointments with a health professional for the final participant. For the two participants that stopped completely, one had a face-to-face appointment with their GP, and the other stopped requesting antidepressant prescriptions. In total, 52 participants (29.7%) had a face-to-face appointment with their GP, and eight (4.6%) had a telephone appointment with their GP. Two participants who did not change their antidepressant dose had a medication review with a pharmacist.

6.4.7 Salient beliefs in predicting attitudes towards discontinuation

Multiple linear regression was conducted on 173 participants to determine whether Salient beliefs predicted attitudes towards antidepressant discontinuation. Tests were run to ensure the data met the assumptions for multivariate analysis.²¹² Partial regression plots and a plot of studentized residuals (residuals divided by the estimates of its standard deviation²¹⁹) against predicted values showed linearity; and there was independence of residuals as illustrated by a Durbin-Watson statistic of 2.01.²²⁰ The intercorrelations for the variables included within the construct of Salient beliefs are shown in Table 6.9, along with the mean and standard deviations. Correlations of the independent variables were all <0.7 , and tolerance values were >0.1 , showing no evidence of multicollinearity.²²¹ Three participants were identified through casewise diagnostics as having standardised residuals ± 3 , which suggests outliers. However, I kept these participants in the analysis as the leverage points were all <0.2 , which is considered safe.²²² Cook's Distance was <1 for all cases, suggesting no influential points in the regression analysis.²²³ The histogram and Q-Q Plot of standardised residuals were normally distributed.

The scatterplot of studentized results against predicted values did show heteroscedasticity of residuals (evidenced by a diamond shape), suggesting that residuals were not all equal for all values of the predicted dependent variable. However, while heteroscedasticity can weaken the analysis, it does not invalidate it.²¹² As such, parameter estimates with robust standard errors were calculated to account for heteroscedasticity, so I could be more confident in my inferences I drew from the predictive relationships in my regression analysis.²²⁴

Table 6.9 Means, standard deviations, and intercorrelations for salient beliefs on attitude

Variables (N= 173)	1	2	3	4	5	6	M	SD
1. Attitude	1.00	-0.61**	0.29**	-0.43**	-0.28**	-0.46**	3.33	1.49
2. Necessity		1.00	-0.15*	0.32**	-0.21**	0.43**	13.69	3.88
3. Concerns			1.00	-0.46	-0.04	-0.12	8.32	4.30
4. Medication				1.00	0.10	0.26**	5.09	1.25
5. Physical					1.00	0.20**	2.91	1.37
6. Chronic						1.00	4.71	1.46

* $p < 0.05$; ** $p < 0.01$; (1-tailed)

The multiple correlation coefficient ($R = 0.71$) showed a moderate to strong linear relationship between salient beliefs and attitudes towards stopping antidepressants. The proportion of variance in attitudes accounted for by the regression model was $R^2 = 49.7\%$ with an adjusted R^2 of 48.2%, which suggests a medium effect size.²¹¹

The coefficients for each of the predictor variables are shown in Table 6.10. The slope coefficients show stronger beliefs in the necessity of antidepressants, along with stronger beliefs that depression can be cured/controlled by medication, has a physical cause, and chronic timeline were significantly associated with more negative attitudes towards stopping antidepressants. Necessity of antidepressants had the largest contribution in predicting attitudes towards discontinuation $t(167) = -6.80$, $p < 0.001$. However, concerns about antidepressants did not significantly predict attitudes towards stopping antidepressant treatment ($B = 0.04$, 95% CI -0.01, 0.09, $p = 0.06$).

Table 6.10 Prediction of attitudes towards discontinuation using salient beliefs

Attitude (N= 173)	B	95% for B		Robust SE B ^a	β	R^2	Adj. R^2
		(Lower)	(Upper)				
Constant	7.66***	6.48	8.84	0.60		0.50	0.48***
Necessity	-0.16***	-0.21	-0.12	0.02	-0.43***		
Concerns	0.04	-0.01	0.09	0.02	0.12		
Medication	-0.21*	-0.40	-0.03	0.9	-0.18**		
Physical	-0.15*	-0.28	-0.02	0.7	-0.13*		
Chronic	-0.20**	-0.35	-0.05	0.08	-0.19**		

^a Robust standard error using HC3 method are reported

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Overall, the multiple regression model showed that salient beliefs significantly predicted attitudes towards discontinuing antidepressants, $F(5, 167) = 33.03$, $p < 0.001$, adj. $R^2 = 0.48$.

6.4.8 Predicting intentions

A hierarchical regression analysis was run on complete data from 161 participants to determine if the addition of past behaviour, current symptom severity, and current antidepressant use predicted intentions to stop antidepressants over and above constructs from the TPB. I checked that my data met the assumptions against the full model. Independence of residuals was met as shown by a Durbin-Watson statistic of 2.14. Assumptions of linearity were met, and there was no multicollinearity. One participant had a standardised residual of 3.2, but the leverage value was < 0.2 , so it could be considered safe and was not removed from the regression model. No highly influential points were identified,²²³ and the histogram and P-P plots showed normal distributions of the residuals. As with the regression model for salient beliefs predicting attitudes, heteroscedasticity was evident, so the robust standard errors were calculated and reported.²²⁴

The means, standard deviations and correlations between variables are shown in Table 6.11. Most variables had a significant linear relationship with intentions. In particular, intentions were shown to have moderate to strong significant linear correlations with attitudes ($r = 0.75, p < 0.001$) and subjective norms ($r = 0.75, p < 0.001$). Necessity, medication to cure/control, and a chronic timeline were all found to have moderate significant negative linear relationships with intention. Attitudes towards discontinuing antidepressants had moderate significant linear correlations with PBC ($r = 0.59, p < 0.001$) and necessity ($r = -0.61, p < 0.001$).

Table 6.11 Means, standard deviations and intercorrelations for beliefs and attitudes on intentions

N= 161	1	2	3	4	5	6	7	8	9	10	11	12	13	14	M	(SD)
1. Intention	1.00	0.75***	0.60***	0.54***	-0.47***	0.42***	-0.21***	-0.46***	-0.48***	0.19**	-0.03	-0.05	-0.12	-0.25***	2.62	1.87
2. Attitude		1.00	0.55***	0.59***	-0.61***	0.32***	-0.26***	-0.44***	-0.45***	0.11	-0.05	-0.15**	-0.19**	-0.28***	3.33	1.49
3. Subjective norm			1.00	0.31***	-0.38***	0.35***	-0.13*	-0.35***	-0.34***	-0.03	0.02	-0.13**	0.00	-0.21***	2.48	1.16
4. PBC				1.00	-0.52***	0.11	-0.16*	-0.42***	-0.31***	0.09	-0.03	-0.22***	-0.36***	-0.33***	3.58	1.45
5. Necessity					1.00	-0.15**	0.21***	0.43***	0.32***	-0.10	0.03	0.17**	0.32***	0.29***	13.65	3.93
6. Concern						1.00	-0.08	-0.16**	-0.46***	0.09	-0.13	-0.02	0.29***	0.07	8.25	4.26
7. Physical							1.00	0.16**	0.13	-0.01	0.01	-0.10	0.17*	-0.01	2.90	1.35
8. Chronic								1.00	0.29***	-0.17**	-0.10	-0.10	0.28***	0.27***	4.73	1.46
9. Medication									1.00	-0.06	-0.02	-0.04	0.04	-0.01	5.07	1.28
10. With doctor										1.00	-0.07	0.29	0.08	0.05	1.53	0.50
11. Without doctor											1.00	0.06***	-0.11	-0.06	1.60	0.49
12. Successfully stopped												1.00	0.10	0.26***	1.69	0.46
13. Symptom severity													1.00	0.17**	8.35	6.48

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$ (1-tailed)

The results from each step in the hierarchical multiple regression are presented in Table 6.12. The results showed that the three constructs from the TPB accounted for significant variation in intention scores $F(3, 157) = 118.04, p < 0.001, \text{adj. } R^2 = 0.62$. The addition of salient beliefs (Step 2) to the prediction of intention led to a small but significant increase R^2 change of 0.04, $F(5, 152) = 3.31, p < 0.01$. There was a minimal change in R^2 when adding past history to the model (Step 3), but this change was not significant $F(3, 149) = 1.8, p = 0.14$. The addition of symptom severity (Step 4) and duration of antidepressant treatment (Step 5) did not change R^2 .

Each of the models were tested to see whether they were statistically significant in predicting intentions. The full model including all constructs from the TPB, salient beliefs, past history, symptom severity and antidepressant treatment duration to predict intention was statistically significant $R^2 = 0.69, F(13, 147) = 24.17, p < 0.001, \text{adjusted } R^2 = 0.65$.

The regression coefficients show that attitude ($B = 0.54, 95\% \text{ CI } 0.29, 0.78, p < 0.001$), subjective norm ($B = 0.39, 95\% \text{ CI } 0.13, 0.66, p < 0.001$) and PBC ($B = 0.20, 95\% \text{ CI } 0.03, 0.37, p < 0.05$) added statistically significantly to predicting intentions. No linear relationships were found between salient beliefs, symptom severity, or current duration of antidepressant treatment. Within the variable of past behaviour, previous attempts to stop taking antidepressants with a doctor's knowledge and successfully stopping showed a positive linear relationship on intentions to discontinue antidepressants, but were not statistically significant ($B = 0.37, 95\% \text{ CI } -0.03, 0.72, p = 0.06$ and $B = 0.22, 95\% \text{ CI } -0.33, -0.68, p = 0.39$ respectively). Taking all variables into account, only TPB constructs and concerns maintained their predictive ability throughout the model.

Table 6.12 Prediction of intentions using TPB variables, salient beliefs, past history, symptom severity and antidepressant duration

Step	Variable entered	Beta					95% for <i>B</i>		Robust <i>SE B</i> ^a	<i>β</i>
		Step 1	Step 2	Step 3	Step 4	Step 5	(Lower)	(Upper)		
1	Constant	-1.32***	-0.55	-1.67	-1.73	-1.63	-1.80	-0.85	0.24	
	Attitude	0.63***	0.55***	0.54***	0.54***	0.54***	0.45	0.81	0.09	0.50
	Subjective Norm	0.45***	0.36**	0.39***	0.40***	0.39***	0.20	0.69	0.12	0.28
	PBC	0.21**	0.21**	0.22**	0.21**	0.20*	0.05	0.37	0.08	0.16
2	Salient beliefs									
	Necessity		0.02	0.02	0.03	0.03	-0.05	0.10	0.04	0.05
	Concern		0.06**	0.06**	0.07**	0.07**	0.02	0.11	0.02	0.14
	Physical		-0.02	-0.01	-0.01	-0.01	-0.17	0.13	0.08	-0.01
	Chronic		-0.12	-0.08	-0.08	-0.06	-0.30	0.06	0.09	-0.09
	Medication		-0.10	0.10	-0.09	-0.11	-0.29	0.08	0.10	-0.07
3	Past History									
	With doctor			0.35	0.36	0.37	-0.03	0.72	0.19	0.09
	Without doctor			0.01	0.00	-0.01	-0.37	0.39	0.19	0.00
	Successfully stopped			0.18	0.18	0.22	-0.33	0.68	0.25	0.04
4	Symptom severity				-0.01	-0.01			0.02	-0.03
5	Antidepressant duration					0.00	-0.04	0.02	0.00	-0.06
<i>R</i> ²		0.63	0.67	0.68	0.68	0.68***				
<i>F</i>		89.10	37.94	28.55	26.08	24.17***				
ΔR^2		0.63	0.04**	0.01	0.00	0.00				
ΔF		89.10	3.31**	1.84	0.31	1.11				

^a Robust standard error using HC3 method are reported****p*<0.001, ***p*<0.01, **p*<0.05

6.4.9 Predicting behaviour

The hypothesis was that the likelihood of discontinuing antidepressants is related to higher intentions and higher PBC. Predicting behaviour from intentions and PBC was only possible for 151 participants (54.5%). I attempted a binomial logistic regression by splitting participants into two groups: reduced and did not reduce.

Linearity of the intention and PBC variables was assessed using the Box-Tidwell procedure,²²⁵ and met the assumptions. A Bonferroni correction was applied using all five terms in the model, resulting in statistical significance accepted when $p < 0.01$.²¹² When looking for outliers, nine out of the 12 participants who reduced their antidepressants had studentized residuals ± 2.5 , which were not corrected when conducting a transformation of the variables. Examining the data suggested they were outliers as they all had low intention scores yet reduced their antidepressants six months after completing the questionnaire. As this proportion of outliers included the majority (75%) of participants who reduced, I decided that it was not feasible to run a binomial logistic regression as the model would be a poor fit.²¹²

The mean intention and PBC scores comparing participants who reduced and did not reduce are shown in Table 6.13.

Table 6.13 Comparison of intention and PBC scores between participants who reduced and did not reduce antidepressants at six months

Behaviour (N= 151)	Sample N (%)	Intention		PBC	
		M	SD	M	SD
Reduced	12 (7.95%)	3.14	0.55	3.11	1.30
Did not reduce	139 (92.05%)	2.39	1.68	3.41	1.44

A Mann-Whitney U test was run to determine whether there were any differences in either intention or PBC scores between those who reduced or did not reduce their antidepressants at six months. The difference in intention scores between those who reduced (mean rank= 101.37) and did not reduce (mean rank = 84.5) was not statistically significant, $U = 1400.50$, $z = 1.30$, $p = 0.19$. There was no statistically significant difference in PBC scores between those who reduced (mean rank = 70.83) and did not reduce (mean rank = 76.45), $U = 772.00$, $z = -0.42$, $p = 0.67$.²²⁶

A binomial logistic regression was run to ascertain the effect of intentions to start to come off antidepressants on whether participants ($n = 165$) had at least one appointment with a GP, Nurse Practitioner or Pharmacist. Tests for the linearity of mean intention score regarding the logit of

outcome were assessed using the Box-Tidwell procedure.²²⁵ Mean intention score was found to have a linear relationship to the logit of the dependent variable. There were no outliers in the analysis. The model was found to be non-significant, $\chi^2(1) = 0.83$, $p = 0.36$. Variation in having an appointment with a health professional or not was less than 1%. The model showed no improvement in estimating the probability of having an appointment with a health professional compared to a model that assumed that all cases would be classified as not attending an appointment. The model's sensitivity was poor in that it did not correctly predict any participants who did have an appointment ($n = 60$). The specificity of the model was high in that all participants ($n = 105$) who did not have an appointment with a health professional were correctly predicted not to have had an appointment. The odds of having an appointment increased with stronger intentions towards starting to come off antidepressants, but this finding was not statistically significant, $\text{Exp } B = 1.09$, 95% CI 0.91, 1.31, $p = 0.36$.

6.5 Discussion

6.5.1 Summary of findings

The quantitative component of the APPLAUD Study set out to test whether beliefs and attitudes towards long-term antidepressant use would predict intentions to stop or continue treatment; and whether these intentions were translated into actual behaviour. As well as conducting an exploratory analysis of the self-reported survey responses, I wanted to see how well participants' beliefs and attitudes could be explained by the extended model of the TPB that I had developed.

The overall findings showed that most participants had little to no intention to start to come off antidepressants, and less than 10% of the sample had started to reduce their antidepressant dose at six months. There was no significant difference in mean intention or PBC scores between participants who reduced or did not reduce their antidepressants; however, it was not possible to determine whether either of these variables could predict actual behaviour.

The full model that I developed was found to significantly predict 65% of the variance in intentions towards starting to come off antidepressants; however, only the TPB constructs and concerns within the construct of salient beliefs were significant predictors in the model. As hypothesised, more positive attitudes, greater PBC, and greater normative expectations predicted stronger intentions to start to come off antidepressants. Attitudes towards starting to come off antidepressants were the biggest predictors of intention, followed by subjective norms. PBC and concerns would significantly predict intentions to start to come off antidepressants, but the differences they made were small.

As hypothesised, more favourable attitudes towards antidepressant discontinuation were likely to predict participants' intentions to stop antidepressants. The findings also showed stronger beliefs that depression could be controlled by medication, had a physical cause, and had a chronic timeline were significantly associated with more negative attitudes towards stopping antidepressants. Necessity beliefs about antidepressants appeared to be the most important factor when considering stopping long-term antidepressant use, with over 85% of participants agreeing that taking antidepressants was necessary. Participants with stronger beliefs in the necessity of antidepressants to control or cure depression had fewer intentions to stop taking antidepressants.

Along with the weak negative association between beliefs around the necessity and concerns around antidepressants, the findings suggest that these two constructs are independent of each other. Furthermore, the proportion of variance of concerns in predicting attitudes and intentions towards stopping antidepressants was small, suggesting that participants may not prioritise concerns about antidepressants when considering discontinuation.

In the current study, where the focus was on decisions to stop or discontinue after at least two years of continuous use, participants did not hold strong beliefs that significant others (including their GP) thought they should start to come off antidepressants. However, in line with my hypothesis, subjective norms were found to positively predict intentions to stop antidepressants, suggesting that if participants believed their GP thought they should stop, they would have more intention to do so. Furthermore, most participants said they would be comfortable if their doctor gave them support and follow up if they were to discontinue antidepressants. Again, in line with my hypothesis, previous attempts to stop with a doctors' knowledge and successfully stopping in the past showed a positive association towards intentions to stop antidepressants. Comparing these findings suggests that having a positive relationship with the GP is important for patients to receive appropriate guidance and support during the acute and maintenance phase, and could facilitate decision-making around stopping treatment and subsequent discontinuation.

6.5.2 Strengths and limitations

While I attempted to make some inferences from the data, it was not possible to draw any reliable conclusions about which psychosocial factors are more likely to predict intentions to start to come off antidepressants, and whether these intentions are translated to actual behaviour. Despite an adequate response rate of 16.9%, a proportion of questionnaires returned were excluded from the analysis as participants had a self-reported antidepressant duration of less than two years. Furthermore, other participants had responded "*years*", "*don't know*", or "*can't remember*", which meant these participants also had to be excluded from the data. Interestingly,

participants self-reported continuous antidepressant treatment duration of 11 years, which is considerably higher than the average reported length of treatment in previous research of around two years.^{28,227,228} As some participants stated they did not know how long they had been on antidepressants, this self-reported higher duration of treatment could be based on participants' best guess rather than prescribing data reported in published data.

As well as some concerns about the reliability of the self-report data, it was difficult to use the data for regression analysis. As the majority of participants indicated little to no intention to start to come off antidepressants in the next six months, and that less than 10% of participants had reduced their antidepressant dose at six months, it was difficult to create a reliable predictive model, particularly when investigating intentions and PBC in predicting behaviour. Furthermore, there was a significant amount of missing data. As my data were MNAR and non-normal in their distribution, multiple imputations would not have accounted for the differences between the observed and missing data, which could have led to bias. Therefore, regression analysis was run using only complete cases. While complete-case analysis results in less biased estimates for regression coefficients, it means that error was over-estimated and the power of my model was decreased.²¹⁸ Low power reduces the likelihood that a statistically significant result shows a true effect. Moreover, it is not possible to rule out a Type II error (i.e. wrongly accepting the null hypothesis that constructs within the extended model of the TPB did not predict intentions towards starting to come off antidepressants, because the small sample size was not able to pick up the differences reliably). This may be the case for concerns about antidepressants and previous attempts to stop with the doctor's knowledge, as the results found for these possible predictors were in the direction of a positive association and approached the 5% level of statistical significance ($p = 0.06$ in both cases).

Despite these limitations, there were some strengths. The internal consistencies of the questionnaire items were strong, suggesting that the items I developed were reliable in measuring each of the constructs of the TPB. In addition, Cronbach's alpha for the constructs in the BDQ appeared to be similar to the scores from the original study.⁴² While a test for inter-rater reliability was not conducted, similarities suggest that the BDQ is a useful measure to explore patient's beliefs about long-term depression using these constructs from the CSM of illness representations.

6.5.3 Conclusion

The APPLAUD study investigated whether beliefs and attitudes about long-term antidepressant use predicted intentions to stop or continue treatment, using an extended model of the TPB. While the exploratory descriptive data were useful, it was not possible to conduct a robust

analysis on how well the model would predict intentions due to the small sample size. It was also not possible to predict behaviours from the notes review data. Despite these limitations, the finding suggests that the model's complexity and the strong negative views participants have towards intentions to stop antidepressant treatment warrants further exploration.

Chapter 7 Attitudes and Preferences of People regarding long-term Antidepressant use for Depression: A nested qualitative study

7.1 Chapter Outline

This Chapter outlines the nested qualitative component of the Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (APPLAUD) study, which consisted of semi-structured interviews with a sample of participants who completed the APPLAUD questionnaire. The interviews aimed to explore participants' views and understanding of long-term antidepressant use in managing depression in primary care. I outline the methods I used to conduct the data collection and analysis of the interviews, and I present the key findings and my interpretations of these findings.

7.2 Aims

The nested qualitative study aimed to explore participants' views, understanding, and experiences of long-term antidepressant use for depression and their views towards discontinuing long-term use.

7.2.1 Objectives

The broader objectives of the qualitative study were to expand on the findings from the questionnaire survey study (Chapter 6) by conducting an in-depth exploration of participants' views and understanding of long-term antidepressant use. Further exploration could give a more comprehensive insight into the phenomenon around long-term antidepressant use and explain some of the findings from the questionnaire survey. While the questionnaire survey identified observable findings (whether participants reduced their antidepressant dose or not), it is important to explore further the underlying theoretical mechanisms that could explain the observable outcome. This is in line with the complementarity approach in mixed methods research, in that both quantitative and qualitative methodologies have strengths and limitations.¹⁹⁶ Combining both methodologies would allow me to draw a stronger theoretical understanding of reality, in line with the critical realist paradigm.⁵⁴

More focussed objectives were to:

- Explore participants' understanding of the cause of long-term depression and why they were prescribed antidepressants.
- Gain insight into the process of starting antidepressant treatment and ongoing management.
- Explore participants' understanding of how and why antidepressants are used in the ongoing management and treatment of depression.
- Explore participants' attitudes towards their antidepressant use and their understanding around benefits and drawbacks of taking antidepressants.
- Understand participants' reasons for their intentions to stop or continue taking antidepressants, based on their perceptions of how antidepressants play a role in their management of depression.
- Elicit participants' views and understanding of the role of the GP in the ongoing monitoring of their antidepressant treatment.
- Identify participants' current processes towards continuing antidepressant treatment, and how this may influence their intentions to stop or continue.

7.3 Methods

7.3.1 Design

I decided to conduct a reflexive thematic analysis,²²⁹ using semi-structured qualitative interviews as my method. Interviews are a useful method to elicit participants' subjective perspectives, attitudes and accounts of a given phenomenon or context.²³⁰ This knowledge is generated through the co-construction of ideas and meaning between the interviewer and participant. The critical realist approach shares interpretivist views towards qualitative interviewing in that the mutual construction of ideas between the participant and interviewer can yield a subjective but rich understanding of experiences, social relationships, and contexts. However, it also acknowledges that social action takes place in the context of pre-existing social relationships and contexts, which in turn will have implications for social action.²³¹ In line with the interpretivist paradigm, critical realists acknowledge that the interviewer and participant engage in an interactive process to generate a narrative that can help form perspectives, experiences, and attitudes towards a given phenomenon.

7.3.2 Sample

Participants who completed the APPLAUD questionnaire had the option to consent to be contacted about taking part in a qualitative interview. As most (75.3%) participants who completed the questionnaires gave consent to be contacted, I was able to recruit to the qualitative study using purposive sampling,⁸² where participants were deliberately selected based on their ability to answer the research question. I used maximum variation sampling, where I attempted to recruit participants with different demographic characteristics and histories of antidepressant use. Maximum variation sampling allows for heterogeneity, to understand the views and understanding of long-term depression management in primary care from a more diverse range of people.⁸²

Determining sample size for qualitative studies has been widely discussed in the literature. Lincoln and Guba²³² describe the concept of data saturation, which means that recruitment of participants stops when no additional information, codes, or themes are produced from the data that have already been collected. However, knowing when data saturation has been reached is difficult to determine.^{233,234} In addition, Braun and Clarke argue that data saturation is not compatible with reflexive thematic analysis as the concept is more grounded in a postpositive approach.²³⁴ Another approach to determine an acceptable sample size is the concept of information power, which suggests that the sample size should be dependent on the following five elements²³³:

- The study aim: studies with a broader research question or aim would require a larger sample size to answer the question than a study with a narrower focus.
- Sample specificity: how much participants relate to the characteristics of the sample group, while allowing for enough variation of their experiences to gain an in-depth understanding of the phenomenon to be explored. A smaller sample is acceptable when participants belong to the specified target group yet can show some variation within the phenomenon of interest.
- Use of established theory: the level of existing theoretical background and evidence and how much new knowledge could contribute to the existing evidence. Studies that have limited theoretical perspectives or evidence would require a larger sample size for adequate information power.
- Quality of dialogue: the quality of the interview based on the level of communication between me and the participant, and the depth of the data collected. Dialogue with higher quality would mean less participants would need to be included in the study to have adequate information power.

- Analysis strategy: the data analytic approach will have an impact on the sample size required. A more in-depth analysis of participants' accounts and experiences does not require as large a sample compared to other analytic approaches; for example, an exploratory cross-case analysis.

Determining sample size for a reflexive thematic analysis should be largely based on interpretative factors; however Braun & Clarke²³⁴ acknowledge that pragmatic judgement is inevitable. As my research question was broad and my sampling approach meant I was looking for maximum variation of participants, a larger sample size (upwards of 30) would have been preferable. However, due to time constraints, it would not have been practical for me to conduct that many interviews. Instead, I used my purposive sampling approach to identify as heterogeneous a sample as possible (based on sociodemographic data and past history of depression) and tried to conduct interviews to elicit a rich level of dialogue. I then spent more time immersing myself in the data to identify patterns and more latent understanding of participants constructs of long-term antidepressant use. As critical realism sees epistemology as separate from ontology, I considered that my findings could not identify a true 'reality'. Instead I acknowledge that my findings represent a theory of what reality may be. Therefore, it would not be appropriate to try to 'generalise' my interpretations to the wider population.

I approached 47 participants by email or telephone call to ask if they would like to take part in the study. Four participants declined, saying they were no longer interested, and 27 participants did not respond to my emails or telephone calls. Sixteen participants took part in the interviews. All participants were white and 11 (68.8%) were female. The mean age of participants was 54.16 years (SD= 14.64). The sample were quite highly educated, with just over half the participants having a degree or vocational level qualification. Nine participants (56.2%) were in employment, 5 were retired, one was a carer for a family member, and the other was a student. Over half (62.5%) were married or living with a partner, five were divorced or single, and one was widowed. Self-reported current antidepressant duration ranged from 2 to 40 years. Nine participants (56.2%) had attempted to stop with their doctor's knowledge, and half had attempted to stop without their doctor's knowledge. Only three (18.8%) had successfully stopped antidepressants in the past; and the median duration of being off antidepressant treatment was one year. The mean intention score towards starting to come off antidepressants was 2.0, which suggested low intentions towards stopping to come off antidepressants in the next six months.

7.3.3 Procedure

I contacted participants either by telephone or email to introduce myself, establish an initial rapport, and ask whether they would still like to be involved in the interview study. I asked

participants who were recruited from practices in Wessex whether they would like to take part in a face-to-face or telephone interview, and participants recruited from practices in West of England were invited to take part in a telephone interview, as it would not have been time- or cost-effective to travel to participants that were geographically further away. Face-to-face interviews were conducted at the participants' homes, at their GP practice, or on University of Southampton Highfield Campus.

There are practical strengths and limitations in using face-to-face or telephone interviews,²³⁵ as outlined in Table 7.1.

Table 7.1 Advantages and disadvantages of face-to-face and telephone data collection methods

	Face-to-face	Telephone
Advantages	<p>Easier to build rapport and interact with the participant.</p> <p>Ability to pick up non-verbal cues and setting context.</p> <p>The participant is more likely to give full attention to the interview.</p>	<p>Ability to access hard-to-reach respondent groups.</p> <p>Ability to access participants in locations further afield.</p> <p>The participant's perception of anonymity is increased, facilitating the exploration of more sensitive topics.</p> <p>Increased interviewer safety.</p> <p>More cost-effective than face-to-face interviews (no travel expenses).</p>
Disadvantages	<p>The participant may feel less comfortable giving responses that are not socially desirable.</p> <p>Logistics and planning of interviews can be time-consuming.</p> <p>Restricted to a more local population.</p>	<p>The interviewer is unable to identify or respond to non-verbal cues.</p> <p>More problematic for the interviewer to offer comfort to participants if they become upset during interviews.</p>

From a methodological perspective, it is essential to reflect on how these data collection methods could influence the qualitative research process. Telephone interviews are often viewed less favourably as they do not allow for a visual encounter between the participant and interviewer.²³⁵ This means the researcher cannot pick up non-verbal cues or make inferences of the contextual data (such as physical characteristics of the participant and setting) and may result in the potential loss of verbal data.²³⁶⁻²³⁸ A previous study²³⁹ exploring mental health and employment used both telephone and face-to-face interviews to collect data, and the authors explored the interactional differences between the two methods.²⁴⁰ They found that telephone interviews tended to be shorter than face-to-face interviews; and that interviewees were more likely to ask for clarification or check the adequacy of their responses to the researcher's questions. On the

other hand, researchers were more likely to complete or formulate the end of participants' responses during face-to-face interviews. Despite these differences, the literature suggests that there were no significant differences in the quality of data generated. However, it was important for me to remain sensitive to the context of how the data were collected for my study, as participants could have communicated their understanding and views of long-term antidepressant use differently, dependent on the method.²³⁸

At the beginning of the interview, I re-introduced myself to participants and attempted to build a rapport with them. A good interpersonal relationship is meaningful in qualitative research as it facilitates the generation of rich data during the interviews, while maintaining a mutual level of respect and trust between the researcher and participant.²⁴¹ Participants had a further opportunity to read the participant information leaflet (PIL) which gave details of the study (Appendix P.1). I reminded participants that their participation was voluntary, and that they did not have to answer questions they were not comfortable with. They were reminded that they could withdraw from the study at any time. Participants also had the opportunity to ask me any questions before giving informed consent (Appendix P.2).

The interviews were semi-structured and based around a topic guide consisting of open-ended questions (Appendix P.3). The topic guide consisted of questions that asked participants to share their views, experiences and understanding around their long-term antidepressant use. I also asked participants to give accounts of what led them to start taking antidepressants, as well as their current use of antidepressants and interactions with a GP regarding review and monitoring. The topic guide was semi-structured as I wanted the opportunity to probe participants further if they shared any experiences or concepts of long-term antidepressant that were outside of my own meanings of the topics discussed, and that I felt warranted further exploration.

I piloted the topic guide prior to its use with my Patient and Public Involvement (PPI) contributor. Through his involvement with depression trials my PPI contributor showed a keen interest in qualitative methods. I was the module lead for a Masters-level module on qualitative research methods, so I invited my PPI contributor to audit the module and learn more about qualitative methodology and its application to primary care research. Piloting the topic guide meant that I was able to practise asking the questions on the topic guide with someone who was representative of the sample, as well as identifying any potential questions in the topic guide that were not easy to understand or interpret. In addition to acting as a participant to pilot the topic guide, my PPI contributor was able to use his knowledge and understanding of qualitative methods to make suggestions on additional questions to ask in the interviews, as well as improving the wording of some questions. Based on the pilot interview and advice from my PPI

contributor, I refined my topic guide to be suitable for the interviews. Interviews were audio-recorded with the participants' consent and transcribed verbatim.

Six interviews were conducted face-to-face, and 10 were completed over the telephone. One of the ways to include PPI in the research cycle is in the undertaking of research, for example conducting interviews.²⁰⁶ Therefore, with the consent of the participant, my PPI contributor observed one face-to-face interview, and was invited to ask follow-up questions at the end of the interview. The duration of the interviews ranged from 41 minutes to 1 hour 37 minutes ($M = 53.4$).

Immediately after the interview, I spent some time reflecting on the interview and making field notes. This was to record any immediate thoughts and interpretations of the narrative that had been given by the participant, as they may have been helpful further down the analytic process.²⁴² An example of my field notes after my interview with Participant 17068 are shown in Figure 7.1.

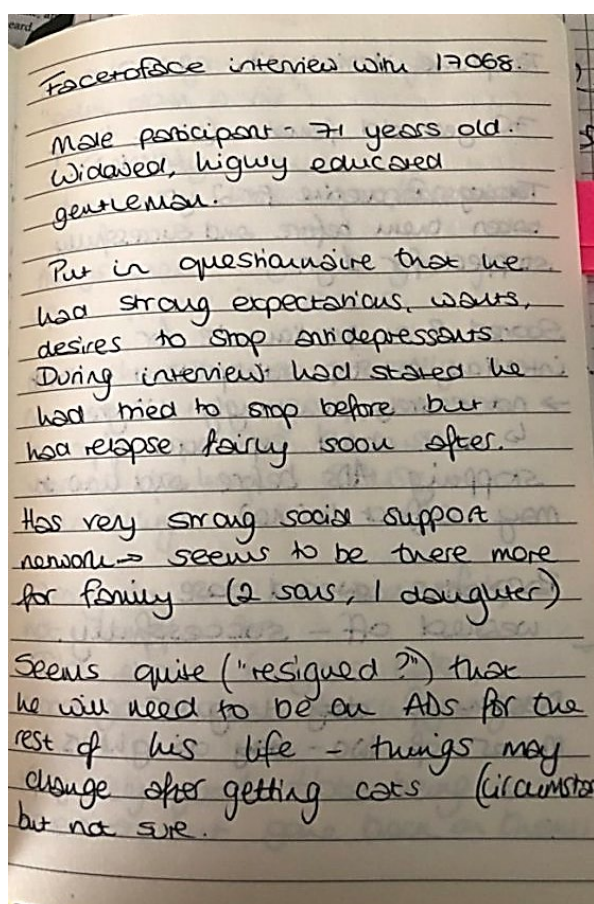


Figure 7.1 Example of field notes after a face-to-face interview with Participant 17068

To facilitate the analytic process, I imported the transcripts into NVivo 12.⁸⁵ Using NVivo helped me to organise my transcripts, codes, and themes, and document the analytic process while I was conducting my analysis.

7.3.4 Analysis

The interviews were analysed using reflexive thematic analysis.^{229,243} The researcher's reflexivity and subjectivity are central components of this analytic approach,²⁴³ and it is important to critically consider the researcher's position when conducting the research and interpreting the findings. Ontology, epistemology and methodology need to be considered when generating knowledge and understanding through qualitative methods. Braun and Clarke suggest that thematic analysis should move away from methods embedded in more positivist foundations, such as creating and using coding manuals both as a 'measure' of reliability and controlling researcher subjectivity.^{244,245} Instead, it is recommended that a more interpretivist approach is adopted. This is done by searching for meaning within stories and accounts relayed by participants about their knowledge and understanding of their own realities.²⁴³ Reflexive thematic analysis can be used within the critical realist paradigm.²⁴³ Braun and Clarke state:

For us, qualitative research is about meaning and meaning-making, and viewing these as always context-bound, positioned and situated, and qualitative data analysis is about telling 'stories', about interpreting, and creating, not discovering and finding the 'truth' that is either 'out there' and findable from, or buried deep within, the data.^{243(p.591)}

The critical realist's paradigm acknowledges the existence of the 'real' domain, but accepts that the ability to know this reality is imperfect, and that epistemologically we can develop theories about this reality based on what we uncover at the empirical level.^{56,58,68} As such, reflexive thematic analysis will not discover the truth about long-term antidepressant use; but instead can be used as a systematic yet fluid method to theorise the motivations, experiences, and meanings of using long-term antidepressants to manage depression.

7.3.4.1 Researcher reflexivity

As I was conducting a reflexive thematic analysis, it was vital for me to consider my own assumptions and beliefs about long-term antidepressant use for depression. I spent some time thinking about my academic interests and agendas regarding my PhD thesis and how my personal experiences could influence the generation of themes and meaning from participants' interviews.

As a researcher, I was aware that I could unintentionally be looking for patterns of meaning that would 'fit' within the assumptions of the theoretical models of health behaviour included in my APPLAUD questionnaire. While the qualitative data were to be used in line with the complementarity approach in mixed methods research, I tried to make sure that I was not deliberately looking to generate themes that would support my hypotheses for the quantitative

study, if this was not a true reflection of participants' views and understanding. Instead, I strove to find unanticipated patterns within the data to generate themes.

From a personal perspective, I appreciated that my own experiences of long-term antidepressant use and previous attempts to discontinue treatment could influence the co-construction of a theorised reality of participants' intentions around long-term antidepressant treatment. I have attempted to stop antidepressants once during the winter and tapered quickly without any support from my doctor. I had no withdrawal symptoms when discontinuing, but I did relapse four months after stopping and had to restart treatment. I have also tried three different selective serotonin reuptake inhibitors (SSRIs) in the past. While I have a strong desire to stop antidepressants, my GP has advised me to continue treatment for the foreseeable future. While I acknowledge that participants might have had similar experiences to me, I also noted that in line with the critical realist paradigm, my theory of what is 'real' regarding long-term antidepressant use will not be the same as other participants. As such, I would need to be open to views that were not in line with my own beliefs.

To remain as reflexive as possible, I made notes in my reflexive journal to consider how my beliefs could influence the analysis and interpretation of the data.

The six steps of reflexive thematic analysis²²⁹ are outlined below:

7.3.4.2 Familiarisation with the data

Familiarisation with the data required the repeated reading of the interview transcripts while searching for meanings and patterns within the data. I transcribed all the interviews as I felt this was a good opportunity to familiarise myself with the data and make further field notes about any initial understanding of what participants meant by what they were saying during the interviews.²⁴⁶ An example of this is shown while transcribing the interview I conducted with Participant ID 12037 (Figure 7.2). I considered his portrayal of stopping antidepressants as a 'challenge' immediately after the interview, but during the transcribing process, I noticed he had described depression as an illness that is 'managed rather than cured'. I felt this was a point of interest and made a note to explore this further during the analysis.

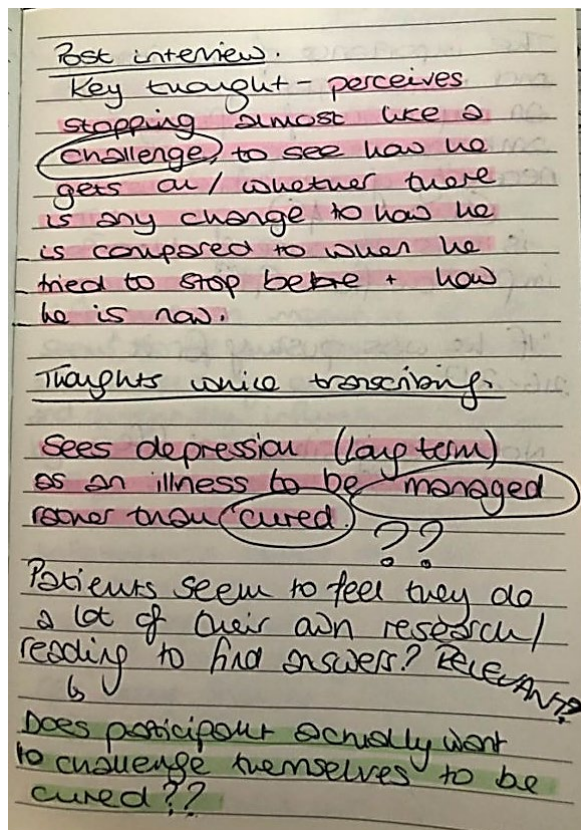


Figure 7.2 My field notes after conducting and transcribing Participant 12037's interview

Once I had familiarized myself with the data, I started the formal coding process.

7.3.5 Generating initial codes

The second stage of thematic analysis happened once I had made an initial list of ideas and thoughts about the data. I then started to code the data, which was a matter of reading through the transcripts and labelling any content that I felt was of interest regarding the phenomenon of long-term antidepressant use.^{67,244}

As I had used theoretical models when designing my questionnaire, some of my initial coding was theory-driven, as I wanted to see what participants discussed in relation to some constructs of the Theory of Planned Behaviour (TPB), depresscribing theory, and the Necessity-Concerns Framework (NCF). However, my approach to the coding was predominantly data-driven, where I wanted to see whether any patterns of meaning could explain unexpected findings from the questionnaire that did not fit in with the theories.

I coded the data for as many patterns and units of meaning as possible. As I was conducting my analysis through NVivo, I was able to code inclusively and could easily identify where the codes 'fit' within the broader context of the interview. Some of the data were labelled as more than one code as I felt the extracts of data could fit into more than one theme.

7.3.6 Looking for themes

Once I had done the initial coding of some of the interviews, I started to focus on how these codes could be sorted into different themes. I started to look at the codes to see whether there were any patterns or whether different codes could be included together as an overarching theme. I found that some codes I had generated were not necessarily relevant to my interpretation, so I created an additional code for 'parked' codes. I attempted to conduct my analysis at the latent level to identify underlying ideas and assumptions that formed participants' understanding of long-term antidepressants and how they created meaning around how antidepressants formed part of their management of depression. Once I started to form some initial themes and sub-themes from the codes, I then went on to the next step, which was reviewing these themes.

7.3.7 Reviewing and refining the themes

Once I had generated a set of initial themes, I started to refine them by determining whether the coded data within the themes formed a coherent pattern and provided a meaningful description of that theme. If the theme appeared problematic, I would examine the codes and move them if they were better placed within another theme or change the theme itself. Once I was happy with the themes at the coded level, I then looked at my themes to determine how I could create a thematic map that gave an accurate reflection of the data. As reflexive thematic analysis is an iterative process, I spent most of my time during the analysis reviewing, changing, and refining my themes to produce a narrative that explained participants' views, understanding and experiences of long-term antidepressant use. I shared my themes and discussed my interpretations with my supervisors to reflect how I had coded the data.

7.3.8 Defining and naming the themes

Once I had created a thematic framework, I then defined and named my themes and sub-themes. By doing so, I was able to establish the meaning of each theme and how they fit within the broader context of the analysis in answering my research question. I decided to use verbatim quotes from participants as the labels for my themes and sub-themes, as I wanted to emphasise that my analysis and generation of themes were grounded in the participants' understanding of the phenomenon under interest.

7.3.9 Reporting the findings

The final stage was to report the findings, providing an analytic narrative of participants' understanding and views towards long-term antidepressant use, and using extracts from the

participants themselves to demonstrate how I formed my interpretations of their experiences. Quotes from participants were included to either illustrate examples of my interpretations of the data, or provide a more detailed analysis of how participants have constructed their own representations and understanding of long-term antidepressant use.²⁴⁷ It is possible to incorporate both illustrative and latent approaches in reflexive thematic analysis,²⁴⁷ and I felt that this was appropriate within my critical realist paradigm. Data extracts have been edited with the removal of hesitations and repetitions. Ellipses in square brackets (i.e. [...]) have been used while cleaning up the data to show where portions of speech have been removed in quotes.²⁴⁸ I have made sure that portions of the removed text have not impacted the context of participants' accounts and my interpretation of the data. To ensure participants' confidentiality, I changed all actual names to pseudonyms, and attempted to minimise the inclusion of extracts that could lead to participants being identified. I allocated pseudonyms to participants to give a more 'human' account of patients' beliefs and attitudes towards long-term antidepressant use, which is recommended for studies that have a smaller number of participants.²⁴⁷

7.4 Findings

During the interviews, participants shared their views, understanding and experiences of depression and long-term antidepressant use. Participants talked about their views on discontinuing antidepressants and their understanding of how the GP played a role in deciding whether to stop or continue treatment.

My analysis of the data generated four themes and 13 sub-themes, which are outlined in Table 7.2.

Table 7.2 Themes and sub-themes generated from qualitative interviews

Themes and sub-themes
7.4.1 “A perfect storm that ticks all the boxes of situational chaos”
7.4.1.1 “You’re just a miserable existence really”
7.4.2 “Antidepressants are just a way of life”
7.4.2.1 “I always found my own ways of coping”
7.4.2.2 “I want to get it fixed as soon as possible, so I can just get on with my life”
7.4.2.3 “I just felt so much better”
7.4.2.4 “It’s my little soldier who sits by the side of the bed”
7.4.2.5 “I don’t quite understand medically how they work for me”
7.4.2.6 “I think everybody’s either in the same situation, or they’re completely supportive”
7.4.2.7 “You get so used to it you almost forget”
7.4.3 “I would rather not take a drug to make me feel normal”
7.4.3.1 “A shock that a simple little tablet was having such an effect on my life”
7.4.4 “If you’ve got a lovely sensible doctor like I have, all is well and good”
7.4.4.1 “Let’s just get through this bit first, and have that conversation next”
7.4.4.2 “It’s a rubber-stamping process rather than an actual review”
7.4.4.3 “You know, it’s up to you. It’s up to you.”

7.4.1 “A perfect storm that ticks all the boxes of situational chaos”

An overarching theme that explained participants’ beliefs and attitudes towards long-term antidepressant use was their understanding of long-term depression and how their concepts were formed based on their unique experiences and circumstances. The theme *“A perfect storm that ticks all the boxes of situational chaos”* explores what long-term depression meant to participants, in terms of how they believe it was caused, their representations of depression, seeking an explanation, and how they came to identify themselves as someone with long-term depression.

Many participants talked about a significant life event that had triggered their depression, such as bereavement, relationship troubles, or difficulties in the workplace. While talking about these events; participants explained how they had struggled to cope on a day-to-day basis:

“I’d had some massive life changes that were very stressful. [...] I was trying to juggle everything. Then I went back to work [...] And it just, it was like a perfect storm that ticks all the boxes of situational...chaos, really.” (Laura)

As well as identifying situational factors, participants also suggested that they did not have the psychological resilience to cope with these feelings of stress and chaos. An inability to cope with their circumstances led some participants to avoid confronting issues, despite being aware that this approach was not helpful. Other participants described hiding from how they felt by continuing to: *“drive through when the crisis and the issues were happening”* (Laura). As such, Laura’s symptoms of depression appeared once her issues had started to resolve:

“It was only once those things had started to lessen that my brain just sort of went ‘and now relax’, and oh, God.” (Laura)

Participants acknowledged that irrespective of the severity of circumstances, building resilience and adopting coping strategies were important in managing their depression:

“It’s going to be a combination of things, I suppose. What’s happening at that point in your life but also to do with things that happened previously, and memories and experiences that have happened already [...] Self-esteem and self-efficacy and things like that will have an impact on what causes it and how people cope with individual stressful events.” (Stephanie)

As well as psychosocial causes of depression, participants talked about biological causes of depression. Irrespective of what going on for them at the time, some participants still believed there were genetic components that caused their depression:

“Now I can look back in hindsight and think, no wonder I had these up and down feelings, with the underlying issues that are genetic.” (Erin)

In addition to genetic or hereditary causes, participants talked about how chemical imbalances, particularly serotonin levels, caused depression. Some participants talked about how they felt their depression was worse during the winter. While some felt these months caused low mood as *“the weather goes darker, and you’re stuck indoors a bit more”* (Charlie), John suggested that levels of daylight affected his serotonin levels and consequently his mood:

“I’m sure the light levels have a major effect on it, and the melatonin and the serotonin, whatever they do, I think are quite significant. Now that’s why I’m a great believer in this particular case of chemicals.”

One interesting observation during some interviews was that participants seemed confident in stating that chemical imbalances caused their depression; however, participants found it harder to explain what a ‘chemical imbalance’ or ‘serotonin deficiency’ meant to them. Charlotte attempted to provide an explanation based on her recollections of what the GP had told her:

"I was actually shown a picture from my doctor, that clinical depression isn't just the low mood. He actually showed me what happens in your brain with these two, like nerve ending things, and like the spark from one doesn't automatically jump over to the other one, and keep the chain going. And he said that clinical depression is when that link, that chain breaks down. [...] And then I realized that it's not just all in my mind and I weren't just going loopy, that it's a physical thing in my head." (Charlotte)

The relatively short descriptions of what their GP had told them about the biological causes of depression emphasised a sense of uncertainty and lack of understanding of these chemical imbalances:

"The doctor explained in a roundabout way, I've almost got a chemical imbalance of where my highs are extremely high. My lows were extremely low." (Charlie)

Despite difficulties in articulating the biological causes of depression, participants seemed accepting of what the GP had told them, as it legitimised their depression as a medical illness:

"I was taught it was an imbalance, and I said okay, I'll take that what it is. And for some people, it is a chemical imbalance, and for some people, they don't have that problem." (Liz)

7.4.1.1 "You're just a miserable existence really"

While participants viewed significant life events as a trigger for the onset of their depression, different representations were given by participants when describing their depression as 'long-term'. The most common representation of long-term depression was persistent feelings of low mood or sadness. Some participants talked about how they felt they were *"always feeling a bit unhappy, but not realising that it was unhappiness"* (Liz). This *"constant level of low mood"* (Barbara), irrespective of what was going on for them in their lives, was a concept that patients talked about to articulate what long-term depression meant to them:

"I've seen the two extremes if you like, where life's great, boring routine things are fine, but everything seems to be going wrong, there's often no way out, and you can't steer through it." (John)

"I'd be sitting there, and I could feel this feeling taking over my body and making me really angry and pissed off. [...] I'd be jubilant when it went, and bloody angry when it was coming. And that you couldn't associate it with things you were doing and the circumstances. It just came on its own." (Nigel)

To further explain their understanding of what long-term depression was, participants said that their depression was cyclical, with peaks and troughs in mood.

"I think long-term depression is cyclical. It comes and goes quite regularly. Maybe a few periods a year, and some probably more intense than others." (Laura)

While persistent low mood was a shared representation of long-term depression, participants acknowledged that long-term depression might present differently among people. It led participants to think about how their own representations of depression could be understood within a more psychosocial context. Participants talked about how they viewed themselves as someone with long-term depression and how they felt the need to try to get themselves back to a level that was considered 'normal':

"It's that awful feeling that you've tried to get yourself back into a normal way of life, dragging yourself around. Trying to be normal. Y'know, that big word 'normal'. But then you start questioning, what is 'normal' for me?" (Karen)

Not feeling 'normal' was also John's way of describing long-term depression:

"Well, you know when you're not normal. I dunno; you're just a miserable existence, really."

Despite acknowledging that living a miserable existence was not normal, John said his ex-wife saw his depression as part of his personality:

"I was always depressed with my wife, but she didn't realise it was depression. She thought it was part of me." (John)

This further emphasised a pattern in participants' narratives that long-term depression was a concept that both manifested itself and was perceived differently between people, suggesting difficulties in giving long-term depression a 'one-size-fits-all', universal meaning.

As a consequence of not being able to define feeling *"whatever normal is"* (Charlotte), a few participants talked about how they did not seek help from their GP until circumstances led them to feel that their symptoms were severe enough to need treatment. In John's case, it was not until he was in a new relationship that he felt comfortable enough to seek help with his new partner's encouragement, as she recognised that his mood was low. Liz also felt she could not ask for help until a significant event happened:

"I'd always had this low level of mood and hadn't really appreciated what real happiness was. [...] It might be that some individuals just have a low level of mood that carries on until something dreadful happens." (Liz)

Overall, participants gave a narrative that depression had psychological, social, or biological causes, or a combination of factors. They constructed the concept of long-term depression as persistent low mood, irrespective of what was going on for them in their lives. Consequently, participants talked about how their experiences of long-term depression led them to question what constituted a 'normal' emotional state, citing individual differences in representations of long-term depression. Despite these different representations however, a common view among participants was that long-term depression was more widely recognised and accepted than in the past:

"I think it is a bit more acceptable now. I think years ago; it was all 'get on with it' - that kind of mentality. You know, 'man up', and all of that stuff. I think you always looked at granddads saying 'oh, he's a grumpy old bugger'. I think actually they were just depressed." (Henry)

7.4.2 "Antidepressants are just a way of life"

The second theme that explained patients' beliefs and attitudes towards long-term antidepressant use was that *"Antidepressants are just a way of life"*. Participants described how psychosocial strategies were a helpful strategy for managing their mood, but as they felt they had persistent feelings of low mood and believed that a chemical imbalance caused their depression, something more was needed. This led to the start of the participants' journey with antidepressants and experiencing some improvement in mood. Participants talked about antidepressants as providers of security, stability, and reassurance; essentially, a means of managing their mood and functioning on a day to day basis, but not necessarily being 'cured'. Despite the improvements in mood and a return to function, participants could still not fully explain how they believed antidepressants worked. However, they accepted antidepressants as a way of life, and felt significant others supported them. As antidepressants were seen as a way of life, participants again questioned whether long-term antidepressant use could be perceived as 'normal'.

7.4.2.1 "I always found my own ways of coping"

As well as describing what long-term depression meant to them, participants also talked about behavioural ways of managing their mood. Participants talked about practical approaches such as exercise, from more intensive forms including cycling, swimming or running, to milder forms such

as yoga and walking. As well as the physiological benefits of exercise, many participants talked about the psychosocial benefits:

"I've joined a swimming group and I find that's good. You get down there, and you're swimming away, and I've got in with a group of about 30 ladies, similar sort of age to me. I find that helps. You know, people of my age group experience different things. We have a chinwag." (Jenny)

Participants also talked about making changes to their lifestyle, such as stopping smoking and reducing alcohol intake to improve their overall health:

"I've stopped drinking, I've stopped smoking. I go to the gym. I meditate, look after myself as best I can, eat healthily. I realised that this is a large part of me looking after myself, and I actually have to heal myself." (Mike)

Taking some responsibility and accountability for managing their mood by engaging in these healthy behaviours suggested that being proactive gave participants a sense of control over their symptoms of depression. However, in keeping with the concept that depression has a unique meaning to different people, participants appreciated that others might not be able to escape their circumstances as readily due to their socioeconomic status:

"I think that people that have less money are in a far more difficult situation than I am, far more difficult. If you lived in an inner city, you were surrounded with very negative people, you didn't have a gym to go to, and there was massive peer pressure and things like that to do different things, um, drinking and drugs, I don't see how these poor people get out of that." (Mike)

Participants also talked about the importance of relationships and having ongoing support from significant others and their social network. Those no longer in a relationship or with a limited social network found this sense of loneliness to be *"an awful thing"* (Nigel), and subsequently detrimental to their mental health:

"I suppose one of the problems I've got, I've got no family at all, no relations whatsoever [...] so you've got no fallback you know? So no 'friends and family' in inverted commas, and I had neither as a support. And I suppose that didn't help." (John)

To combat these feelings of loneliness, both John and Nigel talked about joining groups within their community, to meet other like-minded people, although both found joining these support groups to be unhelpful. That said, most participants found a supportive social network to help them to cope with their mood:

"I love my social life, which is more limited these days, but I entertain, I have friends for supper, that always does me good. So you could possibly say that that's a great thing for mood and being down, having others around me." (Mary)

Other participants discussed how they turned to significant others to get support and advice when they were finding things challenging, which in turn gave them perspective on what was going on for them, and to get reassurance and advice moving forward:

"My wife is fantastic, and she says good advice. And I've been taking that advice." (Mike)

The need to be open and communicate with others was something that participants appeared to value. Participants felt that being open helped others understand how they were feeling, as well as giving the feeling that they were being listened to.

As well as community support groups, some participants talked about receiving psychological intervention by accessing group or personal therapy sessions. Most participants were generally positive about the counselling they had received and had initially found it helpful. However, on reflection, participants did not feel that psychological therapies helped with persistent low mood:

"I found that at the group I felt fine, and I was grateful for sharing and hearing from other people; but within a couple of days I was back down again." (Charlotte)

As with their understanding of the causes of depression, participants gave more detailed narratives about the psychological and social strategies they adopted to control or cure their depression. Participants found these strategies helpful in the main, but they were not sufficient to make them feel completely better. This may have been due to their understanding that their depression was long-term and caused by chemical imbalances, and as such, behavioural strategies were not necessarily helpful:

"I always found my own ways of coping like going for a walk, doing some exercise, having a bar of chocolate. But it just got to the point where anything that I wanted to do to make myself feel any better wasn't working." (Sarah)

7.4.2.2 "I want to get it fixed as soon as possible, so I can just get on with my life"

All participants had been on antidepressants for two years or longer and therefore the role of antidepressants in controlling depression was an important construct in participants' representations of long-term depression. Participants sometimes considered antidepressants as a last resort in an attempt to feel better:

"I kept going back to the doctors and I was like 'well the only thing I haven't tried is antidepressants', in which their response was 'Well would you like to?' and I said, 'Well, I haven't got anything to lose here, so let's give it a go.'" (Henry)

Beliefs and attitudes around the necessity of antidepressants as a long-term treatment strategy appeared to form from as early as when they were first prescribed antidepressants. Participants talked about how they did not feel that antidepressants cured them of their depression but improved their mood to help them cope on a day-to-basis. Participants felt that antidepressants gave them a sense of stability, security, and reassurance, which seemed to be of greater importance to them than any biochemical improvements.

A few participants talked about how they were not well enough to remember or process what they were told by their GP during the appointment when they were first prescribed antidepressants:

"I don't think I was in the frame of mind to really understand or take it all in anyway. I think I was completely shocked to bits. I think I was too far gone." (Jenny)

Participants who had better recollections of their first appointment talked about how they received a diagnosis of depression, were given a brief explanation that it was a chemical imbalance, and that antidepressants could serve as a possible treatment:

"So she was like 'Right, antidepressants, you're depressed', and she went through, 'this is a chemical imbalance in your brain. There are ways that that can be sorted, but it's pretty bad at the moment. You know, there are non-med ways we can deal with it, but I think it's bad enough to justify meds.'" (Erin)

The GPs' view that their depression was severe enough to warrant antidepressants appeared to reinforce participants' beliefs that biological factors caused their depression, and psychosocial stressors exacerbated these chemical imbalances. Other participants felt that receiving antidepressants after repeated visits to their GP legitimised their illness and gave them a sense that they were finally being listened to:

"I could just remember going to the doctor's almost yearly, and I was a young guy, and I was like, I shouldn't be feeling like this, I don't want to feel like this. And I want to fix this. And if there is an issue, I want to get it fixed as soon as possible, so I can just get on with my life. So yeah, it felt good, when they finally said, 'Yeah, okay, well let's give it a go'. And I've then been on them ever since." (Henry)

Having to see a GP many times before they were able to get antidepressants made some participants feel that antidepressants were seen as a last resort by GPs, which went against a common view that antidepressants were issued too quickly:

“You know, I don’t think they hand them out like Smarties, which is what some people think.” (Sarah)

Although most participants felt that being on antidepressants was more widely accepted within society, some felt there may still be some wider misconceptions around the importance of antidepressants in managing long-term depression. Other participants expressed their frustration about the analogy for antidepressants as sweets, arguing that their use was warranted:

“It’s that profile in our society now that doctors just give out antidepressants like sweets. [...] I think there’s a lack of understanding in why people need it, and what doctors do to ensure that they’re giving them to the right people.” (Erin)

On the other hand, Mary, who was very negative about being on antidepressants and did not want to be on them, felt that the ease at which antidepressants were given out made her question her own need for them:

“But what we hear an awful lot is doctors doling out antidepressants willy-nilly. Which is why I have such a thing about them, and why I’m always questioning her about it.” (Mary)

7.4.2.3 “I just felt so much better”

At the start of treatment, antidepressants were viewed as a cure for depressive symptoms, as they would “clear that black fog away” (Barbara), “lift all those dreadful feelings and not be in a darkness” (Karen), and feel “like someone had just lifted the veil” (Laura). These feelings of enlightenment then allowed participants to “cope with situations and things that you couldn’t cope with before” (Claire). Participants talked about feelings of clarity and the ability to move forward with their lives:

“It really helped me just get a level head back, to focus on what I wanted to be doing, rather than worrying about what I wanted to be doing.” (Charlie)

As well as being able to cope with significant life events, participants talked about how they were able to look after themselves and carry out routine day-to-day tasks:

“It’s very gradual, you review yourself in a month, and you think: ‘wow, a month ago I couldn’t even get out of bed and now I’m actually going downstairs and making a cup of

tea' [...] You can suddenly start realising you must be feeling better, because you've actually done those normal things that everybody else does and takes for granted."

(Charlotte)

Once the initial effect of the antidepressants had left participants feeling able to cope and felt *"relatively back to normal"* (Karen), the narrative moved on to the maintenance phase of their treatment. As antidepressants were deemed effective in lifting their mood and gave them a sense of normality, most participants talked about how they wanted to continue taking them:

"I just felt so much better that the thought of suddenly taking them away...I didn't want to risk it cause I could feel that on the surface I felt so much better, but it's still underneath the surface. It's like being in a Jack-in-the-box, and trying to push it all back in again once it's popped out. So yeah, about six months, and then we reviewed it again, and [the GP] said 'Well, how do you feel about it?' and I said, 'Well, I feel so much better, I'm more functioning, that if it's advisable I'd like to stay on them for a little while and see if I can completely stabilise'. And that's what I did." (Charlotte)

Like Charlotte, several participants talked about their feelings of improved mood in such a positive light that they felt that staying on antidepressants may provide continued reassurance and stability.

7.4.2.4 "It's my little soldier who sits by the side of the bed"

After the initial improvements in mood, all participants talked about antidepressants as a treatment that gave them stability, security, and reassurance. Initially, antidepressants had been seen as a way to improve mood and relieve participants of the more debilitating symptoms of depression; but the meaning of the role antidepressants transitioned to keeping participants' mood on a *"level playing field"* (Liz):

"I still have good days, I still have bad days, but they're not as, you know, as extreme as they were. It's really helped me get a level head back [...] It's just brought the high and low, more into the middle. It's kind of levelled it out." (Charlie)

Many participants talked about an awareness of their mood to slightly fluctuate along a *"good baseline"* (Erin). While they still had highs and lows, they were aware these changes in mood were less severe, and a sense of stability was present:

"It took me a long time to feel stable. But I think that it probably took the peaks and troughs off a little bit, or certainly the troughs off a little bit." (Mike)

Participants continued to compare themselves to others in terms of what was considered 'normal':

"So if you are like that normally, like normal people are like that anyway, and they've got that very nice smooth line running through everything, that's fine. But for me I wouldn't have that if it weren't for those, but they do make you see that, that sort of steady line."
(Charlotte)

It was interesting to note that while participants were relieved that the lows were less extreme, many recognised that their mood was not as high as they had hoped:

"It's not that it makes me happy, I'd say it was more of mood stabiliser. So I don't have great highs and great lows, but I am on a level rather than up and down." (Sarah)

Narratives from participants suggested that there were greater concerns around the lows and the severity of their depressive symptoms than concerns around feeling truly happy:

"I suppose they take the edge off things so that one's mood doesn't go from being okay to being seriously not okay, go over the line and you plummet. It keeps you smoother. It helps me to cope." (Mary)

This further suggests that participants did not view antidepressants as a cure for their depression, but as a tool to help them cope and manage their mood:

"I'm only going on my personal journey, but, for me, it doesn't feel like there's a cure for depression. [...] I don't know why, but it just seems as though I take my tablets to keep me steady, not to try and cure me from it." (Charlotte)

7.4.2.5 "I don't quite understand medically how they work for me"

Despite holding strong beliefs that long-term depression was caused by a chemical imbalance or an inability to maintain serotonin levels in the brain, participants found it difficult to explain exactly how antidepressants worked:

"Antidepressants can help with that correction of neurological pathways and that...you know...I don't understand it." (Erin)

This uncertainty emphasised the disconnect between taking a chemical treatment for psychological issues in participants' representations of what caused depression. Participants gave the impression that they wanted to understand how antidepressants were helping them; however, they accepted that despite this uncertainty, antidepressants were necessary:

"It's a physical thing that needs to be mended, rather than a psychological dependency to my antidepressants. It's not me just thinking 'Oh I need to go on antidepressants cause the doctor said so', it's trying to understand why I've got this, how it works and what the pills are actually doing to keep me healthy." (Charlotte)

Even when participants were uncertain around how antidepressants worked in helping with a psychological illness, they were happy to continue taking them if they were just a placebo, as they still allowed them to feel better:

"And I think almost has like that placebo as well, I'm taking this, it's making me feel better. You know? So, I think the actual act of it almost helps as well." (Henry)

Participants further argued that other illnesses were managed by medical intervention without question, and as such, using antidepressants to treat depression should be considered in the same vein:

"It's a bit like my asthma. My asthma's in the background all the time, and I know that if I don't treat it properly, then I will be ill, and it's just exactly the same with this." (Liz)

"If I had a broken leg I wouldn't carry on walking with a broken leg. I'd do something about it. And if something in your brain is broken, you have to do something about it. It's not your fault that it's broken." (Barbara)

As with their understanding of how antidepressants worked in addressing chemical imbalances, participants also demonstrated some uncertainty about whether there were any long-term side effects or implications of being on antidepressants. Some participants shared what side effects they had experienced that were related to antidepressants. The key side effects discussed were a numbing of emotions, increases in weight, and reduced libido. However, others were unsure whether there were any long-term risks. Some participants tried to speculate what these risks could be. For example, Liz felt that there was a risk that it was possible to build a tolerance of antidepressants, rendering them ineffective:

"I don't know if I read it, or somebody said it, that you actually can become so used to them, they don't work anymore. And it's almost like taking a placebo because you think that it's making a difference and it's not doing anything to your system at all [...] A bit like antibiotics, if you have too many then you don't benefit from them." (Liz)

Other participants suggested there may be long-term effects, but due to insufficient research and data, these were unknown:

"I'm not clever enough to understand but they're probably poisoning me in some way, because all medicines are poisons of a kind. [...] So I realised that they're probably having an effect on other parts of my body that no one's aware of yet because no one's really done any tests on it." (Mike)

Despite viewing medications as akin to poison and having some effect on the body, participants felt that as the evidence was lacking, there was no immediate need for concern.

"I'm no chemist. I'm no doctor. But I think if there was even an inkling of there being a long-term dramatic negative impact, we would have started to hear about it by now. And I'm not aware that that's the case, so...I'm okay with it." (Erin)

7.4.2.6 "I think everybody's either in the same situation, or they're completely supportive"

Perceptions around the necessity of antidepressants seemed to be slightly influenced by what participants thought significant others felt about antidepressants. Participants talked about how those around them were aware of them being on antidepressants, but did not pass too much comment about whether they should continue to be on them. Participants also talked about how they knew about others who were on antidepressants and were consequently supportive of their choice to stay on antidepressants:

"I think everybody's either in the same situation, or they're completely supportive of whatever I need to get me through really." (Barbara)

Some participants mentioned that those who were close to them felt they needed to stay on antidepressants:

"They know I'd rather not be reliant on medication, but equally they recognise that I need them, and I'm much better now than I was when I wasn't taking any of it, and it's kind of the lesser of two evils; if that makes sense? [...] They just get mad at me when I forget to take my medication, my husband, he's like 'you need it, you need to take it!'" (Stephanie)

The support from significant others suggests that participants were inevitably free to make their own decisions around whether they wanted to stay on antidepressants, with little interference or judgement from significant others:

"My children accept it [...] "Dad's on antidepressants, he's one of the many." [...] But there's no stigma about me being on it. And if there was, I would just think it was sadness on their part." (Nigel)

Essentially, antidepressant use was seen as a *“way of life”* (Karen), both in participants' minds and in the perceived views of significant others. Some participants felt there might have been more of a stigma around taking antidepressants in the past, but now it was more openly discussed and seen as normal, there were fewer negative perceptions of being on antidepressants:

“You have to remember 25 years ago, if you were seen to be taking antidepressants, you were a bit more of a nut, you know, people viewed you as a bit sort of, ‘Ooh, she’s still on antidepressants.’” (Karen)

While significant others were discussed during the interviews, participants implied that their views on antidepressants were not as important as other factors when considering the bigger picture of the necessity of antidepressants as a way of life.

7.4.2.7 “You get so used to it, you almost forget”

Perhaps in keeping with a sense of ‘normality’, participants did not hold their antidepressant use at the forefront of their minds or as something that defined them; in fact, they saw their antidepressant use as something that ran in the background. Participants had been on antidepressants for such a long time that it had become part of their routine:

“I’ve got a routine in the morning that I get up, flick the kettle on, go to the toilet, make a cup of tea or coffee, come back to bed, get my tablets.” (Nigel)

“It’s just a way of life to me. It’s a bit like getting up in the morning and cleaning your teeth.” (Karen)

How participants talked about taking antidepressants as part of their daily routine suggested that they had no concerns about taking them and felt that continuing to take them was just a way of life:

“I take it with my breakfast every morning, so unless it’s changing something else in me, I can’t see any problem, personally, whatsoever.” (John)

As antidepressants had become part of participants’ routine for a significant amount of time, they rarely considered whether to come off antidepressants. They had formed a strong belief around the necessity of antidepressants in that they had provided stability and a sense of normality.

7.4.3 “I would rather not take a drug to make me feel normal”

The next overarching theme was about participants’ intentions to stop or continue taking antidepressants. While some participants had not actively considered discontinuation, discussion during the interviews turned to their intentions regarding their antidepressant use. This prompted participants to consider whether they intended to either stop or continue treatment and take the time to reflect and discuss what discontinuation meant to them. The main considerations for participants were their motivations, considerations around the risks and benefits of being on antidepressants long-term, and previous experiences of discontinuation.

Some participants said they were motivated to stop, and spoke of a strong desire to live their life without having to be reliant on antidepressants:

“I’ve been taking them for thirty [years]- there must be something bloody better than this. I wanted to stop. And I tried to come off, and they were very, very reluctant, you know, ‘It’s not going to be that easy, Nigel.’ I’d had that said to me for a few years, and it was only recently I said, ‘No, I’m gonna come off. I’m gonna do something positive.’ I want to have some achievement by reducing my drugs, not become reliant on drugs.”
(Nigel)

However, participants acknowledged that there was no guarantee that they would feel better once they had discontinued antidepressants:

“So I would be interested to see if I come off them, will I go back to feeling like that? Or actually this environmental change and everything else, um, I will feel even better? I don’t know.” (Charlie)

Despite seeing antidepressant use as a way of life, participants challenged whether this should be considered as ‘normal’, and thought about how this may have an influence on their decisions about discontinuing long-term use:

“For me personally, I would rather not take a drug to make me feel kind of normal. To me it’s not natural, like I shouldn’t be doing this, but such is modern life and the aspects that come with it.” (Henry)

During his interview, Henry had talked about long-term depression as an illness that is “*managed rather than cured*.” His narrative then went on to discuss discontinuation as a personal challenge:

“I would be interested to just see, now I feel my life is in a very different place to where it was, and see if that makes a difference over medication. Just things like getting back into a good exercise routine, where work has gone quieter, and I can get up in the morning

and get out on the bike [...], to see how I'd cope and actually, if I then need them."

(Henry)

It seems that Henry was reflecting on the underlying psychosocial mechanisms that he believed had caused his depression and the role antidepressants play in managing depression. As he felt both behavioural strategies and antidepressants had helped, it seemed like he wanted to determine which approach was better in managing his depression. In turn, this could help deepen his understanding of the mechanisms of depression.

7.4.3.1 "A shock that a simple little tablet was having such an effect on my life"

While some participants shared a view that being on antidepressants was not necessarily a good thing, participants shared a view that there was a greater perceived need to stay on antidepressants. As antidepressants were viewed as a way of life, a few participants felt that taking antidepressants showed an element of reliance or dependence on them. This did not resonate well with participants' beliefs in their ability to control or cure their depression. However, participants usually felt that the benefits outweighed the risks:

"Having to come to terms with the fact I was reliant on them was difficult. I did talk to my GP about that quite a bit, but we worked out that it would be better to be taking the antidepressants and not be feeling low, rather than coming off of them and not being reliant, but then not coping." (Stephanie)

Participants did not show much awareness of potential long-term side effects. While speculating as to what they could be, participants were quite flippant in their replies, suggesting they were not overly concerned about these risks:

"If they said in 10 years' time, your teeth might fall out, or you might partially lose your hearing in one ear, I think I could probably cope with that." (Barbara)

"If you told me it's going to shorten your life by 10 years, I'd just be like, Okay, whatever. I'll just carry on as I am enjoying my life. Do you know what I mean? I could get run over by a bus tomorrow." (Sarah)

In line with these lack of concerns, other participants did not feel that being on antidepressants was a bad thing, or that these attitudes needed to be challenged when thinking about discontinuing:

"You take an antidepressant because you have depression, low mood. Big deal. I really don't see what all the problem is." (Karen)

"Things are fine. They may well still be fine if I reduced it and then if I came off them altogether; but given that I don't really have any negatives of being on them, is there really any point?" (Claire)

One concern that participants did share was around experiences of forgetting to take their antidepressants. Not being able to distinguish between withdrawal symptoms or a relapse of symptoms was also reflected in participants' accounts of when they had forgotten to take an antidepressant. Mike talked about experiencing quite severe symptoms when he had forgotten to take his antidepressants in the past:

"I have read about many, many people who have severe withdrawal symptoms. And I remember a time when I didn't have any tablets for four days. I was manic. Absolutely manic, completely uncontrollable. Completely. I was a mad thing with anger, frustration, my patience was on a knife's edge to go from being completely happy to very aggressive in seconds. So with that in mind, what do I want to reduce my dose for? No." (Mike)

This negative experience appeared to have some influence on Mike's decision to stop taking antidepressants. This pattern of thought was also reflected in Liz's account of when she had forgotten to take an antidepressant:

"RDH: So you said you're concerned when you miss a dose. What concerns you?"

Liz: What concerns me? That the correct dosage wouldn't be in the system. I might start to have symptoms again. And sometimes there are symptoms like ringing in the ears and things like that. I feel that this is going to get out of control again if I'm not quickly going to manage this."

Participants did not consider that these symptoms appeared due to going from their usual dose to no dose at all; rather than the recommended approach of tapering the antidepressant dose when reducing. Therefore participants may have understood stopping antidepressants based on negative experiences of stopping immediately rather than a more gradual approach. Charlotte also expressed serious fears about stopping antidepressants if she had to stop straight away:

"I do think if I stopped taking them overnight, my body would probably take such a shock, I could drop dead with the shock of not taking them. I know if I miss my morning dose, I'm already getting head shocks, inside my head. My head's zapping from side to side. [...] So I think I could die by suddenly stopping them, but I don't think I'd die by continually taking them regularly, normally." (Charlotte)

As such, participants were uncertain whether to attribute the symptoms they were experiencing to withdrawal symptoms (for example, ringing in the ears and 'brain zaps') or symptoms of relapse into another depressive episode. Either way, their inability to function was of great concern to them, and as such, they felt a need to continue with treatment:

"And whether or not it was just withdrawal symptoms...I've still got to live, I've still got to function, I can't just sit somewhere and feel miserable. I've got to be able to function properly." (Claire)

7.4.4 "If you've got a lovely, sensible doctor like I have, all is well and good"

The final overarching theme considered the role of the GP in shaping participants' understanding and beliefs around long-term antidepressant use, participants' views around the role of the GP in reviewing and monitoring, and the repeat prescription process. Participants talked about the GP as a source of information for identifying the cause of depression, and how antidepressants fit in with the treatment and management of depression. GPs' actions in initiating reviews and what was discussed during the monitoring and review stage of their treatment further shaped participants' beliefs and attitudes towards the necessity of antidepressants.

7.4.4.1 "Let's just get through this bit first, and have that conversation next"

For some participants, the information given to them by GP at the beginning of their antidepressant treatment was when they started forming their understanding of the role of antidepressants in managing their depression. As discussed in the theme: *"I don't quite understand medically how they work for me"*, participants conveyed a sense of uncertainty around how antidepressants worked as a mechanism to help control or cure their depression; and how long they needed to stay on treatment. These views may have been formed based on what the GP said to them at the first appointment:

"I think at that stage her view was 'let's cross that bridge in a few weeks when we see if they work.' Where I was like, 'Oh what about this, and how long will I take them for, la la la?' 'Breathe. Let's just get through this bit first, and let's have that conversation next.'"
(Erin)

Other participants talked about their treatment plan as a situation of *"play it by ear"* (Stephanie) and to *"suck it and see"* (John). Along with an inexplicit explanation that depression was due to chemical imbalances and that pharmacological intervention was an appropriate treatment plan, the overall construct of long-term antidepressant treatment was filled with uncertainty and the unknown from the outset. However, despite this, participants

appeared to be accepting of the GP's decision to prescribe antidepressants. Participants felt that the GP's decision was the right thing to do, as other psychosocial attempts to help manage their depression were not helping with the persistent feelings of low mood:

"I just really trust my doctor and I just do what I'm told. I'm not challenging it, because a) they're professional, and b) I think it's the right thing to do." (Sarah)

Sarah's comment hinted at her perception of the balance of the relationship between her and the GP. She talked about having a high level of trust in her GP and not challenging the decision of a medical professional. However, she followed the guidance of her GP, as it fitted with her own beliefs around the necessity of antidepressants. This pattern was evident in other participants' accounts, and it appeared that participants with a higher perceived need for antidepressants had more respect for GPs who readily prescribed antidepressants than GPs who were reluctant to issue prescriptions. For example, participants' views on the need for antidepressants in the same way that pharmacological treatment was needed for other long-term conditions were often formed through discussions with their GP:

"My GP says it's like being a diabetic. Some people just can't produce insulin, so they're medicated for that, and I'm medicated because it gets to a point that my sertraline [sic] level just doesn't um...generate." (Sarah)

These views continued when decisions were being made around whether to stop or continue antidepressants, in that some participants had less trust in GPs who suggested that discontinuation was a possibility:

"Jenny: I do believe certain doctors still don't grasp or understand exactly what depression is and never had it themselves, and it's not something they perhaps specialise in. Whereas other doctors do have better understanding of it. And I think you're better off from day one saying, look, is there anybody here who specializes more with people with mental health problems, specifically, depression?"

RDH: Is that something that you've been able to have here?

Jenny: Mmm. The GP that told me not to come off them is actually still here now, and he's a very respected doctor. And I thought, what he says, goes. [...] And he told me not to worry about it. And if he says it, as far as I'm concerned, he's God."

Holding GPs with shared opinions around the necessity of antidepressants in such high regard could mean that participants accepted that antidepressants were necessary and did

not challenge their own constructs around the role of antidepressants in managing their depression.

7.4.4.2 “It’s a rubber-stamping process rather than an actual review”

All participants were asked what happened when they needed another prescription of their antidepressants. All participants talked about requesting a repeat prescription using remote methods, including online services, leaving a repeat prescription script at the GP surgery’s reception, or collecting their medication from a pharmacy or dispensary. Participants were quite matter-of-fact around the process and appreciated how simple the service was:

“I still go into the surgery and pick it up, but I now use Patient Access which is online. I just log in, request what I want, I just put a little note saying this is a repeat prescription and then it’s ready within three days. So it’s brilliant.” (Charlie)

Some participants requested another prescription of their antidepressants during an appointment with their GP for another medical concern. This perception of repeat prescriptions as a procedural mechanism was also reflected when participants’ prescription requests triggered an invitation to attend a medication review with their GP:

“Every now and then the doctors do issue me with a note to say I’ve got a medication review; they don’t just let me order on and on and on. I have to go down every so often for a review of my medication and see where I’m at.” (Charlotte)

Participants said they were asked to make an appointment based on an automated message on their patient record, rather than being specifically asked by a GP:

“I think normally it’s the surgery. It might be when I request a prescription and they might say, oh, hang on a minute, you’re due a review, come in and see the doctor because otherwise they’re just dishing out repeat prescriptions.” (Henry)

However, these requests for review appeared to be infrequent:

“I think they have done in the past if I’ve had a period where I’ve not been in. I think in the past she has contacted me by letter and said, ‘haven’t seen you for a while, pop in,’ make an appointment. But I think that’s only needed to be once or twice.” (Laura)

As an automated system generated requests for review, participants felt they were impersonal and part of a box-ticking exercise, rather than an actual need to see a GP to have a discussion and full review of their antidepressant use:

"I get the impression that it's a rubber-stamping process rather than an actual review. It's so they can say that yup, I've done that review [...] It's just something they have to do, and they do it; and I have to do, and I do it. But is there any reason for it? Mmm...probably not." (Mike)

This apparent lack of a personal touch made some participants question the necessity of review and monitoring, as their GP did not specifically invite them to have a review, and their repeat prescriptions were usually issued without any problem. In fact, John felt the process of review was an additional burden for his GP:

"John: Doctors are so busy; I try not to hassle them and make appointments when I think they're not really necessary. I will always just try to contact him through the system to re-order. And not deliberately go, cause how can you judge in 10 minutes my mood? I think I'm the best person to judge how I feel.

RDH: When you say that you don't think the appointments are necessary, what do you mean by that?

John: Well, I mean things slowly get better or worse, and so I just don't feel there's anything the doctor can spot that would trigger any change in prescription, or whatever."

However, some participants did see the value of having a review. Some felt that GPs still had the authority in making treatment decisions around antidepressant use:

"If they ask you to come in for a review, always go for your review. Don't just sort of think 'Oh I'm fine, I don't need a review.' if the doctor's think you need to be reviewed every six months, then you go to that review. So they know that you're managing or not managing." (Charlotte)

It seemed that more positive attitudes towards antidepressant review were when GPs directly asked participants to come for a review. Participants appreciated the difficulties in a continuity of care from the GP, based on time pressures and workloads GPs faced:

"I think with the GP, even though with all the pressure and the timeslot that you get, and with the difficulty to see the same GP, it feels that they actually care, how you are, and how you're coping. They want to do the best by you, and they care what you feel about what you think might be useful, and they ask you for your opinions. They give you an element of control of your own treatment and your own feelings." (Stephanie)

Overall, participants who saw review consultations as part of a process were unsure whether their GP felt that they needed to review their continued antidepressant use.

"Maybe she just said, 'oh she can manage it and she'll be fine.' I don't know, but there wasn't really much follow up that I had, no." (Liz)

This uncertainty around the need for review consultations also shaped participants' beliefs about their depression and the necessity of monitoring. Some participants felt that not having review consultations confirmed that they were someone with 'long-term depression'. As long-term depression was viewed as part of participants' identity, long-term antidepressant use was perceived as a necessary corollary of this:

"I've been back quite a few times for checks and reviews, and I think my long history with depression, the doctor's only got to look at it really, and I think that even they think 'well what else can we do?' [...] I think even the doctor can agree that it's necessary to keep me on them." (Charlotte)

For some participants that did see their GP for a review of their antidepressant medication, their experiences seemed unremarkable:

"And you know, it's nothing too major, they just kind of say 'how is it going?', and you know, 'how are you feeling?', and der der der. I'm the one that's saying 'yeah, it's going well, and I'd like to continue'." (Henry)

"I've only had one I think, and I think it was just like 'Oh I wanna keep on them' and... 'yeah that's fine, carry on.'" (Sarah)

The comments from Henry and Sarah suggest a transition in the relationship between them and their GP. While in the first appointment, participants were happy to listen to their GP and follow their instruction, the participant seemed to have a greater sense of agency in deciding whether they wanted to stop or continue treatment as time went on. Both participants had told their GP at the time that they would like to continue, and the GP appeared happy with that decision. However, this sense of agency also enabled some participants to consider whether they could try to stop antidepressants.

7.4.4.3 "You know, it's up to you. It's up to you"

The sense of agency motivated some participants to take matters into their own hands around deciding whether to stop or continue antidepressants. Erin gave an account of when she had tried to stop antidepressants without her doctor's knowledge, which exemplified other participants' experiences:

"I just read through the leaflet in the packet. 'Oh yeah alright, I'll take one every other day, and I'll do that for a couple of weeks and then I'll stop and I'll be fine.' [...] They don't give you a protocol for how to taper them particularly because they don't want you to do that without your doctor's support, logically [laughs]! I was just a bit arrogant really, I was a bit like, Oh, I'm an educated person, I can figure this out for myself, I don't need to go and waste my doctor's time." (Erin)

Erin recounted her experiences in a way that suggested she felt capable enough to stop taking antidepressants without consulting her GP, even though she was not sure about the tapering process, and she knew that it was probably wiser to do it with support from a GP. These perceptions were reflected by her memories of how her GP had reacted during a follow-up appointment:

"I was like oh my God, this is horrific, and I restarted taking them. I went back to see [my doctor], and she was like, 'What are you doing? Come on. Erin, [laughs] you're far too flippin' switched on to do this, c'mon woman!'"

Erin appreciated this reaction in that it allowed her to feel that she could be open and honest with her GP and voice her desire to be off antidepressants and receive support without judgement:

"We had a bit of a joke about it. That's another big part of my GP's success I think. There's realism in our conversation, it's lovely. We're so lucky with our practice here, they're all bloody marvellous. And she was like 'Right, okay, let's give it a go, then. If you really feel like you don't need it anymore, let's see'. And so we did that, and we tapered off."

Having a good rapport with her GP gave Erin the feeling that despite her failed attempt to stop taking antidepressants without supervision, her GP felt that she could still try to taper off her medication. However, despite the best-laid plans, Erin started to experience negative symptoms such as anxiety and stomach pains, which got worse as tapering went on. Feeling frustrated, she talked about how she went back to speak to her GP, who told her:

"Look, just take it again, Erin, stop worrying about it. If you take it for years, it doesn't matter. It's fine. I'm absolutely supportive of you taking it if you need it." [...] "I'm okay with that as your GP. If you're not okay with it, we can talk about that".

The way that Erin relayed what her GP had said to her suggests that she held her GP's view in high regard, particularly as she felt that the GP had said they were happy for her to continue antidepressants "as your GP." There was also the offer from the GP to listen to her concerns, to

ensure that Erin was happy with her treatment plan moving forward while still maintaining a sense of autonomy:

“Once you've made that first move of talking to someone; in my experience it had been so positive, and we had such a good dialogue going between us. I was able to just be honest, and not fear being that honest with someone. When I needed to have that conversation again, I didn't have any of the barriers that I'd had in the past because I'd had such a good experience here.”

Some of Erin's experiences of the process of discontinuing antidepressants were also reflected in other participants' accounts, showing a shared meaning of the importance of the role of the GP in the ongoing monitoring and review of their antidepressant use. Mary, who had very strong negative views about antidepressants talked about her relationship with her GP with fondness:

“If you've got a lovely, sensible doctor like I have, that I can question, and question, and question, all is well and good.” (Mary)

Mary had said that she had managed to discontinue antidepressants successfully in the past without any withdrawal symptoms. However, she had relapsed each time, which added to her frustrations of not being able to stay off antidepressants. Despite her constant requests with the GP to discontinue her antidepressants, her GP advised to the contrary:

“I mean, she's very, very good, [laughs] she laughs at me because she knows that I hate being on tablets, and get myself off and then get in a state again. I don't like the thought of being on antidepressants. I really don't. But I know that when I come off them, I just can't quite...hold my life together.” (Mary)

This shows that a strong relationship with the GP can be beneficial, as it allowed Mary to be open with her GP, ask questions, and talk about her desires to come off. Her GP was supportive and managed her expectations, as well as coming up with a sensible treatment plan. Even when participants had thought about reducing their dose and went to speak with their GP about their intentions to stop, putting the decision into the participants' hands made them reconsider their intentions:

“I went along to my medication review last year, thinking I would, I'd come down another notch. [...] And the doctor said 'Yeah well it's entirely up to you'. I said I'm a bit of the feeling, well if it ain't broke...” (Claire)

However, one participant did not share the same views as other participants and felt they were better placed than their GP to make decisions around whether to stop or continue treatment as

their own lived experiences were the best determinants of whether antidepressants were necessary:

"I don't think that they have necessarily the time, or the expertise. I think that with knowing my own mind and my own body as I do, and all the research I've done on my own, I probably know a little more about coming off medication than they do, because I specialise in it. [...] So I think they say 'oh you can come off the tablets', but when I actually start to question about how that would happen, then information starts drying up quite quickly." (Mike)

This meant that even if a participant had intentions to stop, their GP might not necessarily be the best person to provide a sense of understanding and support, specifically tailored to the participant. Some participants had persevered with discontinuation, and while they had successfully stopped for a small period of time; they had relapsed and had to resume treatment. While this was extremely frustrating for some participants, GPs challenged participants about their beliefs around whether stopping was necessary, as they may be clinically indicated to continue treatment.

"They just said, 'Look, do you know what? It's really not worth it. You're putting yourself through this, is it such a stigmatisation [sic] to you to be on antidepressants? Why don't you just accept you're on a low dose, stay on it, it's really not a problem'. So that's how it's been viewed for at least the last 10 years." (Karen)

While participants were made to challenge their understanding around the necessity of antidepressants, they still felt that they were in control of making the final decision:

"Stephanie: She was very much letting me make the decision and make the choice about what I would be happiest doing, and what would be most comfortable for me. She was very supportive and discussed the options with me."

RDH: And how did that make you feel, being the one that was able to make the decisions?

Stephanie: That was really nice because being reliant [on antidepressants] makes you feel out of control, and that's a big thing for me. So being able to make decisions and knowing that I may need them to feel like this, but I am able to make that decision and see what happens is empowering."

In summary, participants had formed an understanding of what long-term antidepressant use meant to them, how they fit within their constructs of depression, and how they had made

decisions around stopping or continuing treatment. Even participants with more positive attitudes towards stopping and a greater desire to stop appreciated that the process was complex and difficult, and had come to accept that they may need to keep antidepressants as a mechanism to manage on a day-to-day basis.

“Overall, for me, it’s a positive story of them, but it is one that I would like to eventually come off and see how I deal without, just not taking medication really. If I can now deal without it, then great. But ultimately, if I do need to stay on it the rest of my life, then I would accept that. Yeah, that’s kind of it in a nutshell for me.” (Henry)

7.5 Discussion

7.5.1 Summary of findings

This chapter presented the findings from the nested qualitative study, which formed part of an embedded mixed methods design to explore participants’ beliefs, attitudes, and behavioural intentions towards long-term antidepressant use for depression. I used qualitative methodology as part of the complementarity approach to mixed methods research, aiming to enhance, elaborate, and clarify results from the questionnaire survey with the findings from the interviews.¹⁹⁶ Below, I present a summary of findings from the interview study, and consider how they may explain some of the findings from the questionnaire survey.

Four overarching themes were generated that explained patterns of meaning within the narratives from the participants’ interviews: *“A perfect storm that ticks all the boxes of situational chaos”*, *“Antidepressants are just a way of life”*, *“I would rather not take a drug to make me feel normal”*, and *“If you’ve got a lovely sensible doctor like I have, all is well and good”*.

The first theme, *“A perfect storm that ticks all the boxes of situational chaos”*, described participants’ understanding and representations of depression. Participants shared accounts of significant life events and an inability to cope with these circumstances as a cause of their depression. These views clarify the results from the questionnaire survey, in that participants had greater beliefs that depression was caused by past events, personal flaws, or bereavement; compared to a physical cause. While these life events had improved for some, participants described persistent feelings of low mood. Despite participants’ best efforts to control their depression using psychosocial approaches, ongoing symptoms led to stronger beliefs that their depression was chronic and perhaps biological in nature, meaning that antidepressant use was a suitable treatment option. While chemical imbalances or serotonin deficiency were identified as causes of long-term depression, participants found it challenging to articulate their understanding

of these chemical imbalances. Again, the qualitative findings reflect the quantitative findings, as participants strongly agreed that their depression was chronic, and held very strong beliefs that medication prescribed by their GP would help control or cure their depression. However, while the questionnaire survey identified common beliefs about the cause, timeline, and control of depression, the qualitative findings expand on these results by and understanding that depression is a concept that is unique to the individual, based on their own lived experiences.

The theme *“Antidepressants are just a way of life”* explored participants’ experiences of being on long-term antidepressants. Participants noticed improved mood once they had started antidepressants, which meant they desired to continue treatment for an ongoing sense of security, stability, and reassurance. The questionnaire survey showed that most participants held strong beliefs that antidepressants would help cure or control depression, with participants’ accounts elaborating on these findings by suggesting that antidepressants would help improve mood or control symptoms, but would not necessarily cure their depression.

Despite improvements in mood and a return to function, participants were still unsure how antidepressants worked. When asked to explain what they understood by chemical imbalances, participants found it challenging to articulate the mechanisms of antidepressants and how they accounted for these chemical imbalances. Participants expressed some concerns around long-term side effects of continued antidepressant use, such as weight gain, sexual dysfunction, dependence and emotional numbness. However, as there was little knowledge around the risks of long-term antidepressant use, participants felt the necessity of antidepressants outweighed their concerns. Overall, participants viewed long-term antidepressant use as part of their daily routine and did not actively think about the consequences of taking them.

The theme *“I would rather not take a drug to make me feel normal”* portrayed participants’ views and intentions around continuing long-term antidepressant use. During the interviews, participants said they did not want to be reliant or dependent on antidepressants to feel ‘normal’; however, they believed that staying on antidepressants was necessary. Beliefs in the necessity of antidepressants were influenced by previous negative experiences of forgetting to take antidepressants or attempts to stop, either with or without their doctor’s knowledge. Participants described severe withdrawal symptoms, which added to greater concerns around discontinuation than concerns about continued use. While not statistically significant, successful attempts to stop antidepressants in the past and with a doctor’s knowledge was positively associated with intentions to start to come off antidepressants. Findings from the questionnaire survey also showed that weaker beliefs in the necessity of antidepressants and more positive attitudes towards discontinuation would predict stronger intentions to stop antidepressants. These findings suggest that negative experiences of stopping antidepressants will influence beliefs in the

necessity of antidepressants compared to those who have more positive experiences of successfully stopping in the past, especially when supported by their GP.

The final theme *“If you’ve got a lovely sensible doctor like I have, all is well and good”*, highlighted the importance and influence of the role of the GP in the ongoing monitoring and review of participants’ antidepressant treatment, from as early as the initial appointment. This was shown by participants’ acceptance of GPs’ explanations of the biological causes of depression and the need for pharmacological intervention. In particular, participants held GPs in high regard when their views were similar. For example, some participants appeared to have more trust in their GP when the GP shared views that fit participants’ beliefs around the necessity of antidepressants. This finding may explain why mean subjective norm scores were low in that participants did not agree that their GP felt they should start to come off antidepressants. These perceptions were partly formed by conversations patients had with their GP when they had been unsuccessful with previous attempts to stop antidepressants. Despite participants’ motivation to stop antidepressant treatment, some GPs advised that antidepressants were necessary and reassured participants if they were concerned about dependency or reliance on antidepressants. As attitudes towards antidepressants were the biggest predictor of intentions to stop antidepressants, and their GP supported these views, this could explain why most participants had little to no intentions to stop antidepressants, and did not reduce their dose.

Furthermore, responses from the questionnaire survey indicated that participants were uncertain whether they would be willing to stop antidepressants if their doctor said it was possible. However, most participants said they felt comfortable with their GP providing support and follow-up during the process if they were to discontinue. As participants have greater concerns and uncertainties around the process of discontinuation, a lack of opportunity to discuss these uncertainties with the GP may further suggest why participants have little to no intention to stop antidepressants. As subjective norms positively predicted intentions to stop antidepressants, participants may be more likely to consider discontinuation if they have further opportunities to discuss the process with their GP.

In terms of past behaviour, previous attempts to stop with a doctors’ knowledge and successfully stopping in the past showed a positive association towards intentions to stop antidepressants. Comparing these findings suggests that having a positive relationship with the GP is important for patients to receive appropriate guidance and support during the acute and maintenance phase, and could facilitate decision-making around stopping treatment and subsequent discontinuation.

As well as little to no intention to stop antidepressant use, the notes review data showed that less than 10% of participants reduced their dose, and around 30% of participants had a face-to-face

appointment with their GP in the six months after completing the questionnaire. While the model could not predict actual behaviour, findings from the qualitative study may explain why such a small proportion of participants reduced their dose or saw their GP. First, the dynamic between the participant and GP seemed to change over time, and participants described an increased sense of agency regarding ongoing antidepressant use and any decisions whether to stop or continue treatment. Furthermore, the repeat prescription process may have influenced this sense of agency. Participants talked about the ease and practicality of requesting their prescriptions online or through reception. As 85% of prescriptions were issued using remote methods, participants had little face-to-face contact with their GP and may have assumed that a need for review was unnecessary, as explained in the interviews. Requesting prescriptions remotely limited opportunities for participants to talk about their antidepressant use and potential discontinuation with their GP, meaning that participants were not actively encouraged to consider their antidepressant use.

As participants were rarely asked to attend a review consultation, they felt this reinforced their belief that they were someone with long-term depression, as GPs seemed prepared to continue prescribing antidepressants without monitoring participants' symptoms. Conversely, when participants were invited to review, most felt it was part of a rubber-stamping process due to the impersonal nature of computer-generated invitations to review, and unremarkable conversations during the consultation. However, these accounts from participants differed from the findings from the quantitative study. While not statistically significant, stronger intentions to discontinue antidepressant use increased the likelihood of participant having an appointment with their GP. Of the 16 participants that started to reduce or stopped their antidepressants, 12 had a face-to-face appointment with their GP. As participants who took part in the interviews were still taking antidepressants, they may not have actively requested an appointment to discuss their current antidepressant use and intentions with their GP, explaining why they found review consultations arranged by their GP as unremarkable or part of the rubber-stamping process.

7.5.2 Strengths and limitations

This qualitative study provided an in-depth understanding of participants' beliefs and attitudes towards long-term antidepressant use. Participants gave rich and detailed accounts of their experiences, which was used to explain and expand on the findings from the quantitative study. However, there are some limitations that need to be considered.

A potential limitation of the qualitative study was the small number of participants who took part in the interviews. While determining a sample size is not essential for reflexive thematic analysis,²³⁴ I had to be pragmatic with my decision to recruit 16 participants. Maximum variation

sampling was used, however, only 16 participants were contactable and agreed to take part in the study. The analysis could have benefited from more data from additional participants to see whether any further patterns of meaning could be identified across the data, or to determine whether there were any further unanticipated findings.

Furthermore, while I attempted to have maximum variation within my sample, all participants were of White ethnicity. The findings may therefore not be generalizable to patients from different ethnic and cultural backgrounds. However, as I conducted a reflexive thematic analysis within a critical realist paradigm, I acknowledge that my findings illustrate a theoretical understanding of beliefs and attitudes towards long-term antidepressant use. Essentially, while I have identified social ideas, meanings, and understanding of beliefs, attitudes, and behavioural intentions towards long-term antidepressant use, these interpretations form a theory of reality mediated by the participants' and my own agendas and social forces.⁵⁵ Furthermore, I feel that I obtained rich data to conduct an in-depth analysis, and other qualitative research^{36,92,116} exploring antidepressant discontinuation has used similar sample sizes.

I was able to build a good rapport with participants that facilitated a sense of trust and openness so that participants could give as honest an account of their experiences. Moreover, I felt that having some of my own personal experience of long-term antidepressant use and attempts to discontinue treatment facilitated the data collection process as I was able to show empathy. However, I also had to be conscious that my own assumptions and opinions of the being on long-term antidepressants would not detract from participants' accounts. I accounted for this by keeping a reflexive journal throughout the study, and questioned my own interpretations of the data during the analysis.

7.5.3 Conclusion

The qualitative study expands on the findings from the questionnaire survey and suggests why patients may have little to no intention towards stopping long-term antidepressant use. Patients who understand their depression as 'long-term' believe that antidepressants are necessary to account for chemical imbalances and to provide stability, security, and reassurance on a daily basis. As long-term antidepressant use is viewed as part of the daily routine, and there are few concerns about the long-term effects of taking antidepressants, thoughts and intentions towards discontinuation are rarely considered. Furthermore, not attending regular review consultations with their GP means that patients have little opportunity to discuss their beliefs, attitudes, and intentions towards discontinuing long-term antidepressant use.

Chapter 8 Discussion

8.1 Introduction

The final chapter of this thesis gives an overview of the work I carried out for my PhD and how it has contributed towards the understanding of patients' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care.

I summarise the main findings from each of the chapters and how these findings have answered the aims and objectives I set out in Chapter 1. I discuss how my key findings contribute and compare to the current evidence base, and outline the strengths and limitations of my research. I then consider its implications for current practice, and propose avenues for future research.

8.2 Thesis overview

My PhD aimed to explore patients' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care, with a particular focus on long-term antidepressant use. My approach was to review the existing evidence to understand what is already known about long-term antidepressant use to manage depression in primary care, and to identify potential factors that could influence patients' intentions to stop or continue long-term use. I wanted to see whether these factors could be applied to existing models of health behaviour to determine whether patients' beliefs and attitudes about long-term antidepressant use predicted intentions to stop or continue treatment, and whether these intentions translated into actual behaviour.

I started my PhD by conducting a brief narrative review of the existing literature around current trends of antidepressant prescribing in primary care. The evidence presented in Chapter 1 showed a rise in the number of antidepressant prescriptions due to increased long-term use. However, while antidepressant treatment is no longer clinically indicated for some patients, they are prepared to continue indefinitely. This trend can be explained in part by the decreasing frequency of review consultations over time to monitor ongoing long-term antidepressant use, and patients' fears and uncertainty around the discontinuation process. The research suggested that beliefs and attitudes about depression and antidepressant use may play a role in patients' adherence to antidepressants during the initial and maintenance stages of treatment; however, there was limited evidence around the beliefs and attitudes towards cessation of long-term antidepressant use. Therefore, I felt that beliefs and attitudes towards long-term antidepressant use should be

explored, using a more systematic approach, to derive a theoretical framework of what factors may influence patients' intentions to stop or continue long-term antidepressant use.

8.2.1 Objective 1

Review the existing literature to derive a theoretical framework for how people decide to continue or discontinue long-term antidepressant use in primary care.

Chapter 2 presented a critical interpretive synthesis (CIS) of qualitative and quantitative evidence to create a theoretical framework of factors that influence patients' decisions to stop or continue long-term antidepressant use for depression. My synthesis of 30 papers generated five synthesising arguments: *Patient representations and understanding of depression*; *The role of antidepressants in managing depression*; *Knowing when and how to stop antidepressants*; *The importance of GP monitoring and reviews of the need for treatment*; and *The role of the GP during monitoring and review*. Synthetic constructs within each of the synthesising arguments suggest that deciding whether to stop or continue long-term antidepressant use is a multi-factorial, complex issue with both patients and GPs facing uncertainty around the role of antidepressants in managing depression, the importance of regular monitoring, and how to manage the process of discontinuation.

8.2.2 Objective 2

Explore psychosocial models of health behaviour that could identify factors that influence patients' intentions to stop or continue long-term antidepressant treatment and develop a new questionnaire based on these models.

I decided to explore whether the findings from the CIS could be mapped onto existing theoretical models of health behaviour and determine whether these models could be useful in explaining patients' intentions and behaviours towards long-term antidepressant use. Chapter 3 gave an overview and appraisal of social cognition models of health behaviour, focusing on the Theory of Planned Behaviour (TPB), Necessity-Concerns Framework (NCF), and deprescribing theory. I explained how I incorporated the theoretical and evidence base to create an extended model of the TPB to determine what factors may predict patients' intentions to stop long-term antidepressant use, and whether these intentions could be translated into actual behaviour.

I developed a questionnaire to test each of the constructs in my extended TPB model to determine whether it was a good fit in predicting patients' beliefs, attitudes, and behavioural intentions towards stopping long-term antidepressant use. Chapter 4 outlined the development of 35 Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression

(APPLAUD) Questionnaire items using published guidance for constructs relating to the TPB, and modifying validated questionnaires to focus specifically on long-term antidepressant use.

8.2.3 Objective 3

Test the acceptability of the newly developed APPLAUD Questionnaire to determine patients' beliefs and attitudes towards long-term antidepressant discontinuation.

Chapter 5 described how cognitive interviewing methods are used to test how individuals understand, process, and respond to questionnaire items. I conducted a cognitive interview study with a representative sample of 10 participants to test the APPLAUD Questionnaire's face validity and minimise any chance of response effect or response bias before its use in the main study. Participants shared their thought processes while completing the questionnaire, and I used their comments to develop and refine the questionnaire. Eight changes were made to the first version of the questionnaire after the first round of testing with five participants. A key issue identified with the items was understanding the behaviour '*to stop*' antidepressants in the next six months. Participants were not clear what was meant by this concept, so the target behaviour was changed to '*to start to come off*' antidepressants in the next six months, indicating a reduction in antidepressant dose instead of complete discontinuation. After two rounds of testing, I had a questionnaire that I felt was fit for testing how well my extended model of the TPB would explain patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant discontinuation.

8.2.4 Objective 4

Investigate attitudes and beliefs towards long-term antidepressant use in primary care, and determine whether a theoretically derived model of health behaviour could predict patients' intentions to stop long-term antidepressant treatment for depression.

The final component of my thesis was an embedded mixed methods study to explore patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant use for depression. The study comprised two parts: a quantitative questionnaire survey, along with a nested qualitative interview study. Chapter 6 outlined the methods used to conduct the questionnaire survey, and presented the findings of an exploratory descriptive analysis and regression analyses on the questionnaire data. A key finding was that participants had little to no intention to stop long-term antidepressant use, with just 10% of participants reducing their antidepressant dose six months after completing the questionnaire. The extended model of the

TPB significantly predicted 65% of the variance in intentions; however, only the TPB constructs and salient beliefs accounted for any change in variance. Attitudes towards stopping antidepressants were the biggest predictors of intention. Despite an acceptable response rate of 16.9% and the questionnaire items showing good internal consistency, much of the data were missing not at random (MNAR), so it was not possible to make any reliable conclusions as to how well the model predicted intentions to stop or continue long-term treatment. Furthermore, the notes review data were not sufficient to reliably determine whether perceived behavioural control (PBC) and intentions predicted actual behaviour.

8.2.5 Objective 5

Explore patients' views, experiences, and understanding of long-term antidepressant use in the management of long-term depression.

Chapter 7 presented the methods and findings from the nested qualitative study I conducted to see whether there were any explanations for the findings from the quantitative data, in line with the complementarity approach to mixed methods research. I conducted a reflexive thematic analysis on semi-structured interviews with 16 participants. Four overarching themes were generated that represented participants' understanding of long-term antidepressant use: *"A perfect storm that ticks all the boxes of situational chaos"*, *"Antidepressants are just a way of life"*, *"I would rather not take a drug to make me feel normal"*, and *"If you've got a lovely sensible doctor like I have, all is well and good"*. The study found that participants felt long-term antidepressant use was necessary, as they viewed their depression as chronic and more biological in nature, despite attributing the cause of their depression to psychosocial events. In general, participants did not actively consider long-term antidepressant use, yet felt they were necessary to provide stability, security, and reassurance. There were few concerns around the long-term risks of staying on antidepressants, and participants expressed greater concerns around the process of discontinuation based on past experiences. The findings from the qualitative study provided a potential explanation around why few participants saw their GP or reduced their dose, as most requested prescriptions remotely and were rarely invited to a review. This led participants to believe that review consultations may not be immediately necessary, resulting in little opportunity to monitor and review participants' antidepressant use. In turn, this resulted in little opportunity for participants to discuss the potential for antidepressant discontinuation with their GP.

8.3 Comparison with existing literature

My findings and interpretations from my CIS and the APPLAUD study are similar to much of the existing literature that examines long-term antidepressant use in primary care, and provide some additional findings that could be important for supporting primary care patients when making decisions around whether to stop or continue long-term antidepressant use. Below, I discuss how my findings compare and contribute to the current evidence base.

8.3.1 Beliefs about depression

The findings from my CIS and the APPLAUD study reflect previous research that suggests depression is believed to be caused by many different factors, most of which are psychosocial or related to the perceptions of self.^{42,43,45,51,94,249,250} Common beliefs in the psychosocial causes of depression, such as stress at work, bereavement, or relationship difficulties have been reported in the literature.^{42,43,45,94,98} However, it is important to consider these beliefs around the causes of depression at the time at which they occur in the stage of the lifespan; and how these life changes may impact people and their subsequent decisions around treatment. In Chapter 7, the theme “*A perfect storm that ticks all the boxes of situational chaos*” highlighted that participants’ beliefs about the causes of their depression were around significant life events that had happened to them, and their psychological resilience to cope with these stressors. These views fit in with some theoretical assumptions regarding the psychopathology of depression during the early stages of development, where individuals will form beliefs and attitudes towards themselves, their environment, and their future, based on their experiences.^{250,251} These self-concepts are believed to influence and be reinforced by subsequent life events; therefore negative self-concepts may become structuralised to form a cognitive schema.²⁵⁰ If these negative self-concepts persist, the assumption is that depressive symptomatology may manifest or be exacerbated by a future significant life event.²⁵⁰ While the theoretical assumptions around depression in emerging adulthood remains relatively unexplored,²⁵² cognitive theory suggests that depression may be caused by individuals’ responses to new societal demands and individual changes, such as new relationships, employment, and financial responsibility.²⁵¹⁻²⁵³ A qualitative study²⁵³ exploring the experiences of people with depression in emerging adulthood found that participants felt their illness formed part of their identity, and negatively impacted their sense of self. Moreover, common beliefs around the causes of depression in middle-aged people are more likely to be attributed to current stressors, including work-related stress, separation or divorce, or raising a family.²⁴⁹ For older adults, risk factors for depression are more likely to be the loss of a loved one, financial difficulties due to retirement, changes in living situations, onset of multimorbidity, or illness or caring for a significant other.^{45,249,254} Older adults may be more likely to adopt either

avoidance or ruminative coping styles, which may in turn lead to a loss of social support.²⁵⁴ These differences in beliefs around the psychosocial causes of depression over the lifespan emphasise the individual differences and complexity in these beliefs, and are important factors to consider when making decisions about treatment.

There is sufficient evidence to suggest that psychological and social factors are more prominent in the aetiology of depression than other medical conditions treated and managed in primary care.²⁵⁵ However, while my quantitative findings showed that participants held weaker beliefs in a physical cause of depression than psychosocial causes, findings from the CIS and the qualitative study suggest some patients may nevertheless believe that depression results from a chemical imbalance or serotonin deficiency. These findings are similar to the evidence base where some research²⁴⁹ suggests that only a small number of patients attribute the cause of their depression to biological reasons. Despite this, chemical imbalances or deficiencies in serotonin are still important concepts within representations of depression.^{95,253,256} While there is uncertainty around the exact mechanisms of these imbalances and deficiencies, these beliefs, along with symptoms of persistent low mood and not feeling 'normal', may lead patients to believe their depression has a chronic timeline.^{43,95}

The dissonance between taking pharmacological treatments for an illness predominantly believed to be caused by psychosocial factors resonates with the wider issue of the 'medicalisation' of depression.^{55,257} The biopsychosocial model of depression has aimed to integrate both psychological and biomedical aetiologies of depression.²⁵⁸ There is some argument that GPs may present a more unified and medicalised explanation for depression, which may be influenced by diagnostic criteria such as the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)¹⁹⁸ and recommended guidelines⁶ for the treatment and monitoring of depression in primary care.^{55,259} Despite patients articulating more prevalent psychosocial causes, there is an increasing tendency within primary care to offer antidepressants as a treatment for patients presenting with sadness or distress.^{77,95} The critical realist approach acknowledges more constructivist concepts of 'depression' that are understood relative to individuals' own cultures and history. In addition, it respects the empirical findings around the reality of depression without reducing this understanding to the point that it can only be explained in biological or pharmacological terms.⁵⁵ This may explain how my researcher position influenced the generation of synthetic constructs relating to both biological and psychosocial factors in the CIS (*Patient representations and understanding of depression*) and the theme "A perfect storm that ticks all the boxes of situational chaos" in the qualitative study.

8.3.2 Beliefs about antidepressants and intentions to stop or continue treatment

My findings suggest that the construct of depression is multi-faceted and formed through patients' personal understanding, views, and experiences. These beliefs may therefore influence the decision to start antidepressant treatment. Forming these beliefs is shown in other research that suggests patients will go through different stages of 'self-concept'⁷⁹ during their time on antidepressants and consider whether to follow a 'moral career' or 'medication career' based on their beliefs about their illness and experiences with antidepressants as a tool for managing their depression.^{79,116,260} Again, considering the medicalisation of depression, findings from the CIS and qualitative study showed that participants compared long-term antidepressant use in managing depression to other chronic conditions that required long-term treatment, which has been reflected elsewhere in the literature.⁹² Furthermore, research^{45,261} has shown that stronger perceived beliefs in the effectiveness of antidepressants are positively associated with bio-genetic causal beliefs. As GPs told some participants that their depression was caused by a chemical imbalance, this may explain why participants in the qualitative study believed antidepressants were necessary. However, uncertainty around the biological mechanisms of antidepressants was also articulated, which may be explained by the wide and varied range of beliefs and attitudes towards long-term antidepressant use,^{55,79} particularly around how antidepressants fit within more psychosocial representations of depression.

Findings from the APPLAUD study indicated that most participants had little to no intention to start to come off antidepressants. To date, little research has looked at predictors of long-term antidepressant discontinuation. Most research has focused on beliefs about depression and consequent antidepressant adherence at both the acute and maintenance stages.^{41-43,45,46,51,176} Stronger beliefs in the necessity of antidepressants are related to higher levels of adherence in the initial stages (first three months) of antidepressant treatment.^{44,46,176} However, the level of adherence varies more during the maintenance phase (defined as at least a six-month duration of treatment following remission).^{6,46,47} The research^{46,47,176} suggests that beliefs in the necessity of antidepressants increase over time and predict greater adherence to treatment. This may explain the current study's findings that stronger beliefs of depression having a chronic timeline predict fewer intentions to discontinue treatment.

The findings from the APPLAUD study showed that participants had strong beliefs around the necessity of antidepressants yet had little concern around the implications of long-term use. In line with existing literature,^{30,31,262} participants reported experiences of side effects from long-term antidepressant use, including emotional numbness, weight gain, and sexual dysfunction. However, the findings echo other research^{79,103,116} in that the perceived benefits of antidepressants far outweighed concerns about continued use. Of greater importance were

participants' beliefs that continued antidepressant use gave feelings of stability, security, and reassurance. The evidence suggests that patients weigh these feelings of security and reassurance against the fears and uncertainties around stopping antidepressants.^{21,49} As beliefs about the necessity of antidepressants are stronger than concerns, the prospect of discontinuation leads patients to feel their current levels of stability are under threat.^{36,38,92-95,124}

My findings add to the literature by suggesting that long-term antidepressant use was viewed as part of the daily routine and was not at the forefront of participants' minds. In the current study, participants considered which aspects of their own reality were 'normal' and how they compared to other participants' perceptions of normality. Some participants said the continued use of antidepressants made them feel they were reliant on medication and would prefer not to be on antidepressants to feel 'normal'. This concept of 'normality' has been echoed in other research^{92,263} where patients have described feeling 'normal' when on antidepressant treatment and felt they would not be 'normal' until they had stopped taking antidepressants.

While antidepressants are readily identified as a treatment option, neither patients nor GPs are entirely sure of the role of long-term antidepressant use in managing depression. Doubts around the necessity of antidepressants and perceived risks of discontinuing their use may cause further difficulties for patients when deciding whether to stop or continue treatment.^{36,92-94}

8.3.3 The role of the GP

While the APPLAUD study did not include the personal perspectives of GPs, the findings highlighted patients' views on the importance of GP involvement regarding the ongoing monitoring and review of antidepressant treatment. The quantitative findings showed that participants had stronger beliefs that their GP thought they should not start to come off antidepressant treatment, which predicted fewer intentions to stop. As reflected in other research,^{39,264} participants who took part in the qualitative interviews talked about how they followed the direction and guidance from their GP at the start of treatment, as they had tried other treatment options and were uncertain how to control their symptoms. Previous research supports the importance of the role of the GP in improving adherence to antidepressants. Patients with stronger intentions to continue antidepressants after the first three months of starting treatment had a better relationship with their GP and were more likely to believe in the necessity of antidepressants.^{79,265}

The findings from my qualitative study add to this by suggesting that while participants had valued the guidance and support from their GP during the initial stages, they had developed a greater sense of control and agency as they continued their antidepressant treatment. These

views may be reinforced in participants' minds by obtaining repeat prescriptions through remote methods and a lack of review consultations. My findings also showed that participants had different views around the meaning of the review consultation. Some felt the GP was invested in their monitoring and progress, whereas others felt that more frequent visits were indicative of more severe illness, which has been indicated in other research.⁹⁶

Consequently, patients may be uncertain about who is responsible for initiating a consultation with the GP to review their antidepressant use. This issue has been identified in other research,^{24,93,124,266} with a recent study³⁴ also showing that some GPs felt that the initiation of the review was down to the patient, compared to other GPs who felt they should be responsible for asking patients to attend a review. Nevertheless, studies^{36,38,93,119} suggest that patients valued professional guidance when deciding whether to stop or continue antidepressant treatment.

The questionnaire survey showed that patients are also uncertain about how they would feel if their GP were to suggest stopping antidepressant treatment. This uncertainty could be due to the strong beliefs that participants felt their GP did not think they should start to come off antidepressants. Another reason may be that GPs are uncertain about whether patients should start to come off antidepressants or broach the subject with patients. The evidence suggests GPs have varying levels of confidence when listening to and managing patients' fears and concerns around discontinuing long-term antidepressant use.²³ Furthermore, GPs are given little guidance on how to initiate discussions around discontinuation or how to manage patients' fears and uncertainties.^{34,119} However, most participants reported in the questionnaire survey that they would like support and follow-up from their GP if they started to come off antidepressants. In addition to the findings that 11 out of the 16 participants that reduced or stopped their antidepressants had a face-to-face appointment with their GP, this suggests that the GP plays a crucial role in facilitating decision-making around stopping antidepressants and providing support during the process, which has also been highlighted elsewhere in the literature.^{38,124}

8.3.4 Using the extended model of the TPB to predict intentions and behaviour towards antidepressant discontinuation

To the best of my knowledge, no previous research has investigated the strength of the TPB in explaining behaviours regarding antidepressant use, particularly focussing on long-term antidepressant discontinuation; therefore, there are no similar studies with which to compare my findings. However, my findings do suggest that the utility of the TPB in predicting intentions towards discontinuing long-term antidepressant use is similar to its utility when applied to other health-related behaviours, where it has been shown to explain between 40-49% of the variance in intentions.¹⁶¹

The extended model of the TPB accounted for 65% of the variation in intentions to start to come off antidepressants, which is a novel finding. The three constructs from the TPB (attitudes, subjective norm, and PBC) and the construct of salient beliefs were significant predictors in the model. However, salient beliefs only explained a small additional proportion of variance in intentions to stop long-term antidepressant use. Adding the constructs of past history, symptom severity, and duration of antidepressant treatment did not change the model.

While it is acceptable to add additional predictors to the model, they should only be added if they can show a significant proportion of variance in intentions or behaviour in addition to the original constructs of the TPB.⁶⁰ Past behaviour is considered as one of the strongest predictors of future behaviour and may be a better predictor of behaviour compared to the constructs in the TPB.¹⁶⁰ However, past behaviours did not significantly predict intentions to start to come off antidepressants. Research has shown that past behaviour may be better predictors of intentions or future behaviour if the past behaviour is frequently performed.¹⁴³ This may explain why the construct of past history accounted for very little change in the variance of the model in predicting intentions, as the findings from the CIS and qualitative study showed that antidepressant discontinuation is not a behaviour that is considered frequently or performed.

Furthermore, as discussed in Chapter 6, the questionnaire study had significant limitations resulting in a model that had low statistical power. Therefore, it is not possible from my study to make more robust inferences about how well the TPB can explain intentions to stop long-term antidepressant treatment. Similarly, the TPB has been found to vary in its effectiveness in predicting other behaviours, depending on the particular behaviour explored.¹⁶⁴ As the findings from my CIS and the qualitative study showed, numerous factors may influence patients' decisions to stop or continue long-term antidepressant use. Patients are uncertain about their beliefs in the necessity of antidepressants and the risks of continued use. Compared to other behaviours applied to the TPB, for example, smoking cessation, condom use, and drinking behaviour,¹⁶¹ the risks and consequences of continued antidepressant use are fairly unknown and are of little concern to patients. Therefore, this may explain why the model may not necessarily be a good fit in predicting intentions towards and subsequent behaviour towards antidepressant discontinuation.

Other factors not included in the model should be considered, for example, that patients' intentions towards starting to come off antidepressants may change over time.¹³⁸ As there were six months between measuring participants' intentions to start to come off antidepressants and observing the behaviour, there was a considerable gap between measuring their intentions and their behaviour. A longer time period may allow for more opportunities for patients to consider and consequently perform the behaviour.¹³⁸ This may explain why some participants who had few

intentions to start to come off antidepressants did reduce or stop their antidepressant dose over the following six months. The findings showed that over 80% of participants that stopped or reduced their dose had an appointment with their GP or a pharmacist, suggesting that having a review consultation with a health professional may 'bridge the gap'¹⁴⁰ between behaviour and intentions. It may be worth considering the behaviour of attending a review consultation as an implementation intention,^{135,267,268} which may explain why patients may still start the process of antidepressant discontinuation, despite previous little intention to do so. Trials^{28,269} have shown that prompting GPs to review their patients' long-term antidepressant use will result in a proportion of patients to discontinue. This further emphasises the importance of attending review consultations with the GP to discuss antidepressant use, and for the conversation of potential discontinuation to be broached.

Despite the limited power of the TPB regarding beliefs, attitudes, and behavioural intentions in predicting stopping long-term antidepressant use in this study, it has nevertheless generated some understanding around which psychosocial constructs may be important to address to strengthen patients' intentions to discontinue treatment.

8.4 Strengths and limitations of the research

Each chapter includes a discussion around both the strengths and limitations of the specific theoretical and methodological approaches I used to answer the aims and objectives of my PhD. However, there are some broader strengths and limitations that require further consideration.

A major strength is that, as far as I am aware, this is the first body of work that has explored patients' beliefs, attitudes, and behavioural intentions towards long-term antidepressant use in primary care, using mixed methods. While there is considerable evidence around patients' and health professionals' views and experiences of long-term antidepressant discontinuation, my research has attempted to explain how these beliefs and attitudes may predict intentions and behaviours, using existing evidence and models of health behaviour. While the findings from the questionnaire study were limited due to limited data resulting in a model that had low statistical power, they still suggest that beliefs and attitudes in the necessity of antidepressants play a significant role in predicting intentions to start to come off antidepressants. Some questionnaire items are currently being used as part of the randomised controlled trial (RCT) within the REviewing long-term antidepressant Use by Careful monitoring in Everyday practice (REDUCE) programme,²⁷⁰ to elicit whether participants' beliefs about antidepressants and cessation change during their involvement in the trial, and so are already influencing further research.

The use of mixed methods approaches is a strength as it meant I could integrate both qualitative and quantitative findings using a complementarity approach to answer my research aims and objectives. Our thematic synthesis³⁸ and a narrative review¹²⁴ exploring barriers and facilitators to antidepressant discontinuation were published during my PhD candidature, which yielded similar findings to my CIS. However, my CIS is the first review to systematically integrate both quantitative and qualitative evidence to develop a theoretical framework that identifies factors that may influence both patients' and GPs' decisions to stop or continue long-term antidepressant use.

Another potential limitation of my findings may be the limited representativeness of participants who took part in the cognitive interview study and the APPLAUD study. Firstly, patients with stronger beliefs and attitudes towards stopping long-term antidepressant use may have had a greater inclination to participate in my research than those who were more uncertain about their views. Most of my participants had little to no intention to discontinue long-term antidepressant use, but these findings may not be generalisable to the overall population of primary care patients on long-term antidepressants, which might include more patients who are uncertain about the risks and benefits of stopping treatment. Secondly, the sociodemographic characteristics of participants who took part in the cognitive interview study and the APPLAUD study should be considered. While I attempted to improve the generalisability of my findings from the main study by recruiting from multiple GP practices and using a purposive maximum variation sampling approach in the qualitative interview study, nearly all participants were from a White ethnic group. Therefore, the findings may not represent the beliefs and attitudes of patients from ethnic minority backgrounds, which has been evidenced in the previous literature. Research²⁷¹ suggests that people from ethnic minority backgrounds have weaker beliefs in the biological causes of depression compared to people from a White ethnic background, and have stronger beliefs in the psychosocial causes of depression. This may explain why people from ethnic minority backgrounds are less likely to believe that antidepressants are effective in managing depression,²⁷² and hold stronger beliefs that antidepressants are addictive.²⁷¹ Difficulties in recruiting underrepresented groups to mental health research are unfortunately not uncommon.²⁷³ Overall health-related deprivation patterns are evident in England, with significant health inequalities between the North and the South of the country, which can be explained by socioeconomic deprivation.²⁷⁴ I recruited participants through GP practices based in the South and South-West of England. Therefore, the beliefs and attitudes represented by participants in my study may not necessarily represent those from areas with higher levels of socioeconomic deprivation.

Another key limitation of my research was missing data collected from the questionnaires. Despite testing the face validity of the questionnaire during the cognitive interview study, many responses in the returned questionnaires for the main study were left blank or were difficult to interpret. As such, my data were determined as MNAR, and I could only use participants' data that were complete cases for my regression analyses. The differences in participants' responses between the cognitive interview study and the main study could be because of the differing aims of the two studies. Participants who took part in the cognitive interview study were made aware of the study aims, which were to determine how they understood, interpreted, and answered the questions. This meant participants might have taken more time to read through the instructions on completing the questionnaire and considering their responses. Furthermore, they completed the questionnaire while I was present, compared to participants in the main study completed the survey independently.

A final consideration is that many participants were unsure how long they had been taking antidepressants for their current episode of depression. The median duration of 11 years was considerably higher than antidepressant treatment duration reported in other studies, which again suggests my participants may not have been representative of all patients on long-term antidepressants. This, along with many participants responding that they did not know (or could not remember) how long they had been taking antidepressants for, is an interesting finding.

8.4.1 Critical reflection

As discussed throughout the thesis, my findings may have been influenced by my own personal understanding, views, and experiences of long-term antidepressant use. As someone that has been on antidepressants for many years, has successfully stopped in the past, but has had to restart treatment a few months later due to relapse, I may have unknowingly searched for findings and interpretations that fit in with my own theories of reality concerning long-term antidepressant use and intentions to stop or continue. As a researcher with a background in health psychology, I may have prioritised studies from the depression literature and behavioural models that fit within my own interpretive framework, which aligns with the biopsychosocial approach to depression and its management in primary care. However, I have attempted to be reflexive and transparent in reporting my approach towards all aspects of my PhD and considered how my own position might have influenced my choice of methods and interpretation of the findings. Furthermore, informal discussions with my PPI contributor allowed me to further reflect on how my own lived experiences may differ to other people who have been on long-term antidepressants.

8.5 Implications for primary care and future research

The current National Institute for Health and Care Excellence (NICE) guidelines and recommendations for safe antidepressant discontinuation in primary care is under development and consultation.²⁷⁵ Since starting my PhD in 2016, the evidence base around long-term antidepressant use in primary care and barriers to discontinuation has grown substantially. Research has been published around current trends in long-term antidepressant use,^{11,64,118,276,277} patients' and GPs' views around discontinuation,^{23,33,34,38,116,278} and issues around the process of discontinuation, with a particular focus on symptoms of withdrawal and relapse.^{37,49,119,124,125,270,279-}
²⁸² The evidence base, along with findings from my PhD, highlight implications for primary care and provide suggestions for future research. A key consideration is around the successful implementation of evidence-based medicine (EBM) into practice.

While guidelines are available to aid clinical decision-making based on EBM,²⁸³ clinical inertia (a failure to initiate or modify evidence-based treatment or management for an illness or condition) is prevalent among health professionals who are treating chronic conditions, including depression.^{283,284} Clinical inertia is applicable to the deprescribing of medicines, where some health professionals may be reluctant to discontinue treatment, even if it is no longer clinically indicated, for a fear of worsening symptoms or relapse, or uncertainty around suitable tapering schedules.²⁸⁵ There is a need to consider these factors to enable successful implementation of EBM when deprescribing long-term antidepressant use for people with depression.

One synthesising argument from my CIS was the importance of GP monitoring and review. In particular, the synthetic construct of the use of guidelines to inform monitoring and review suggests that implementing guidance during appointments is challenging, as recommendations could be inconsistent⁹³ or not universally acceptable to patients,^{97,286} which align with provider factors associated with clinical inertia.²⁸³ Another provider factor that should be considered is GP self-efficacy.²⁸³ Evidence suggests that GPs feel more confident in treating people with depression using pharmacological treatment,¹⁰¹ and as such, GPs with lower self-efficacy in treating patients with depression may find it more challenging to recommend psychosocial approaches to manage depression, as well as successfully implementing clinical guidance and broaching the subject of antidepressant discontinuation. By developing the guidelines and ensuring that GPs are able to use these guidelines successfully may lead to improved outcomes for patients with depression in primary care.²⁸⁷ Improving GP self-efficacy in deprescribing potentially inappropriate antidepressants could reduce the risk of adverse outcomes, particularly in older adults,¹⁵⁶ where polypharmacy is more prevalent.¹⁵⁰

This, along with the organisational and system factors of time constraints and a lack of access to resources of care may further add to the level of clinical inertia. Given that some patients may have a preference for counselling over antidepressant treatment, in particular people from an ethnic minority background,^{271,272} availability of psychological support needs to be widened and more readily accessible for people when starting treatment, during the maintenance phase, or once the decision has been made to discontinue long-term antidepressant use.

A key patient factor associated with clinical inertia are beliefs, attitudes, and preferences towards their illness or treatment.^{283,286} Initial decisions around treatment and management of depression may be more patient-centred, where the beliefs about depression and treatment preferences are key considerations when formulating a treatment plan.²⁸⁶ For example, people from an ethnic minority background may have a preference for accessing talking therapies or support from faith groups to manage their symptoms,²⁷¹ and may be more reluctant to start antidepressant treatment in the first instance. Furthermore, treatment plans for older adults should take into account their preferences for treatment based on prior experience, and perceived helpfulness and tolerance of this treatment.²⁸⁸ My research suggests that further discussions between the patient and GP around beliefs and attitudes towards long-term antidepressants are needed from the outset, so patients can actively consider their intentions towards discontinuing long-term use. Patients need to be aware of the importance of ongoing monitoring and review, so that these conversations with the GP can take place. In turn, regular monitoring and review will help maintain a strong GP-patient relationship, which could facilitate conversations around intentions to start to come off antidepressants. This could give patients greater confidence to start the process of antidepressant discontinuation.

To further facilitate the process of discontinuation, GPs need appropriate guidance and support to help inform patients about the role of antidepressants in managing depression, and how to broach the conversation regarding discontinuation. In addition to informing patients at the start of antidepressant treatment that it should not be considered for life and will need to be managed slowly,²⁸⁹ further guidance is needed for GPs to help manage patients' fears and uncertainties about symptoms of withdrawal and relapse and appropriate guidance on the tapering process and successful antidepressant discontinuation. Finally, given that uncertainty is a concept that is evident within all aspects of long-term antidepressant use, further development and refinement of the guidelines to support both GPs and patients in the discontinuation process may be beneficial. The REDUCE programme is examining the effectiveness of a digital intervention that support health professionals and patients while tapering off long-term antidepressant treatment.²⁷⁰ The intervention for health professionals has been developed using evidence, theory, and a person-based approach; and includes guiding principles to inform GPs about the

benefits of discontinuing antidepressant use, improving self-efficacy in managing discontinuation in patients, and providing support to a wide range of patients in a variety of contexts.²⁹⁰ Items from my questionnaire survey are being administered to patients taking part in the trial, and will be used for a mediator analysis at baseline and follow-up, to determine whether any changes in beliefs about antidepressant use change antidepressant use.²⁷⁰ Considering more salient beliefs and attitudes patients may have towards the necessity of long-term antidepressants use means GPs may be able to support patients in formulating a plan for reducing their antidepressant dose that addresses their particular beliefs, and mitigates any fears and uncertainties they may have.

As well as identifying the most appropriate methods for patients to reduce long-term antidepressant use safely, it may be beneficial to consider how to encourage more frequent consultations between the GP and patient so that conversations around long-term antidepressant use can be broached. Further research is needed to determine why patients do not regularly attend review consultations. In addition, the NHS England long-term plan²⁹¹ proposed that practices should offer e-consultations and video consultations by April 2021. As a result of the COVID-19 pandemic, these methods were implemented more quickly than anticipated.²⁹² Research has shown that consultation rates with GPs and nurses reduced in patients with good mental health during the pandemic,²⁹³ which suggests that even fewer patients may consider reviewing their antidepressant use with their GP, if patients are encouraged to have consultations remotely. Future research could explore patients' views and perceptions of having antidepressant reviews over the telephone, via e-consult, or video call. Moreover, further research could explore patients' views about discussing antidepressant discontinuation from other health professionals, such as pharmacists or nurse prescribers.

Finally, three concepts that were evident throughout my research were 'individual differences', 'uncertainty', and 'normality'. It may be beneficial to explore these concepts further and investigate whether they moderate beliefs, attitudes, and intentions towards long-term antidepressant use; and by how much. In addition, future research needs to explore the beliefs, attitudes, and behavioural intentions towards long-term antidepressant use both between and within different sociodemographic groups. Exploring the views of ethnic minority groups, individuals from areas with higher levels of deprivation, and different ages may identify factors that predict intentions to stop long-term antidepressant use within particular groups. Investigating the beliefs and attitudes of these underrepresented groups may further highlight the importance of adopting a more patient-centred approach when considering treatment options and ongoing monitoring and review for people with depression, as well as during the process of discontinuation.

8.6 Conclusion

The concept of depression and long-term antidepressant use is a complex phenomenon with multiple realities, that are shaped by patients' different lived experiences. The empirical findings presented here suggest that patients' beliefs and attitudes towards the necessity of long-term antidepressant use to manage depression result in little to no intentions towards stopping treatment. As long-term antidepressant use is shrouded in uncertainty, the unique perceptions and understanding each patient has towards long-term antidepressant use must be considered when decisions to stop or continue treatment are discussed between the patient and GP.

The findings suggest that patients view the GP as important in forming these beliefs and attitudes towards antidepressants in the management of depression, and as such, could be central in challenging patients' beliefs around the necessity of antidepressants. By having these conversations, GPs may encourage patients who are no longer clinically indicated to continue antidepressant treatment to consider gradual tapering and subsequent discontinuation of antidepressants. However, due to the ease of receiving repeat prescriptions remotely and the decreasing frequency of review consultations over time, participants believe that continued use is necessary. Little opportunity is available for patients and GPs to have conversations around discontinuing long-term antidepressant use, and this issue needs to be addressed to facilitate safe antidepressant discontinuation.

Appendix A Database searches

A.1 CINAHL database search

#	Query
S1	depression
S2	"long term depression"
S3	(MM "Depression+") OR (MM "Depression, Reactive") OR (MM "Dysthymic Disorder")
S4	S1 OR S2 OR S3
S5	"primary care"
S6	"general practi*"
S7	"family practi*"
S8	"GP"
S9	"family doctor"
S10	(MH "Primary Health Care") OR (MH "Physicians, Family")
S11	S5 OR S6 OR S7 OR S8 OR S9 OR S10
S12	manag*
S13	treat*
S14	medic*
S15	therap*
S16	antidep*
S17	prescri*
S18	"disease management"
S19	(MH "Disease Management")
S20	"self manag*"
S21	(MH "Self Care")
S22	(MH "Antidepressive Agents")
S23	S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22
S24	S4 AND S11 AND S23
S25	S4 AND S11 AND S23
S26	S4 AND S11 AND S23
S27	S4 AND S11 AND S23

A.2 EMBASE database search

#	Query
1	depression.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
2	"long term depression".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
3	depression/
4	"depressive disorder".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
5	1 or 2 or 3 or 4
6	"primary care".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
7	"general practi*".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
8	"family practi*".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
9	"GP".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
10	"family doctor".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
11	primary medical care/
12	general practitioner/
13	general practice/
14	6 or 7 or 8 or 9 or 10 or 11 or 12 or 13
15	manag*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
16	treat*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
17	medic*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
18	therap*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
19	antidep*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
20	prescri*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
21	"disease management".mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
22	disease management/
23	self care/
24	antidepressant agent/
25	15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24
26	5 and 14 and 25

#	Query
27	limit 26 to (embase and english and yr="2000 - 2016" and adult <18 to 64 years>)

A.3 MEDLINE database search

#	Query
1	depression.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
2	"long term depression".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
3	Depression/
4	Depressive Disorder/
5	"depressive disorder".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
6	1 or 2 or 3 or 4 or 5
7	"primary care".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
8	"general practi*".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
9	"family practi*".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
10	"GP".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
11	"family doctor".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
12	Primary Health Care/
13	General Practitioners/
14	Family Practice/
15	7 or 8 or 9 or 10 or 11 or 12 or 13 or 14
16	manag*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
17	treat*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
18	medic*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
19	therap*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]

#	Query
20	antidep*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
21	prescri*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
22	"disease management".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
23	Disease Management/
24	Self Care/
25	"self manag*".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
26	Antidepressive Agents/
27	16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26
28	6 and 15 and 27
29	limit 28 to (yr="2000 -Current" and "all adult (19 plus years)" and english and humans)
30	depression.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
31	"long term depression".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
32	Depression/
33	Depressive Disorder/
34	"depressive disorder".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
35	30 or 31 or 32 or 33 or 34
36	"primary care".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
37	"general practi*".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
38	"family practi*".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
39	"GP".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
40	"family doctor".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]

#	Query
41	Primary Health Care/
42	General Practitioners/
43	Family Practice/
44	36 or 37 or 38 or 39 or 40 or 41 or 42 or 43
45	manag*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
46	treat*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
47	medic*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
48	therap*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
49	antidep*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
50	prescri*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
51	"disease management".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
52	Disease Management/
53	Self Care/
54	"self manag*".mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
55	Antidepressive Agents/
56	45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55
57	35 and 44 and 56
58	limit 57 to (yr="2000 -Current" and "all adult (19 plus years)" and english and humans)

A.4 PsycINFO database search

#	Query
S1	depression
S2	"long term depression"
S3	DE "Major Depression" OR DE "Dysthymic Disorder" OR DE "Reactive Depression" OR DE "Recurrent Depression" OR DE "Treatment Resistant Depression" OR MM "Recurrent Depression" OR DE "Long-term Depression (Neuronal)"
S4	S1 OR S2 OR S3
S5	"primary care"
S6	"general practi*"
S7	"family practi*"
S8	"GP"
S9	"family doctor"
S10	MM "Primary Health Care"
S11	DE "General Practitioners"
S12	S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11
S13	manag*
S14	treat*
S15	medic*
S16	therap*
S17	antidep*
S18	prescri*
S19	"disease management"
S20	(MM "Disease Management") OR (DE "Self-Management")
S21	"self manag*"
S22	MM "Treatment"
S23	DE "Antidepressant Drugs"
S24	S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23
S25	S4 AND S12 AND S24
S26	S2 OR S3
S27	S12 AND S24 AND S26
S28	S12 AND S24 AND S26
S29	S12 AND S24 AND S26
S30	S12 AND S24 AND S26
S31	S12 AND S24 AND S26

Appendix B Data extraction table

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
Ambresin, Palmer, Densley, Dowrick, Gilchrist, & Gunn (2015) What factors influence long-term antidepressant use in primary care? Findings from the Australian diamond cohort study	Australia	Quantitative Cross-sectional cohort study 789 Patients	To examine socio-demographic, clinical factors, and health-service use characteristics associated with long-term antidepressant use to increase understanding of factors that may lead to the increase in antidepressant use.	Women more likely to report long-term antidepressant use. 35% of long-term of long-term users reported no episode of major depressive disorder, while 15% reported recurrent episodes, and 50% reported a single episode. Two-thirds of long-term users reported it difficult to manage on available income, with 29% unable to work. 80% of long-term users rated the care from their GP as moderately or extremely helpful.	Methods of antidepressant duration based on self-report.	HIGH
Andersson, Troein, & Lindberg (2005) General practitioners' conceptions about treatment of depression and factors that may influence their	Sweden	Quantitative Postal Questionnaire Survey 317 GPs	To elaborate further the frequencies of Swedish GPs' conceptions of depressive disorders and its treatment and of their ideas of factors that may influence their manner of work with depressive patients.	Nearly all GPs considered their own clinical experience of treatment to be of great importance, with the majority also taking patients' own preferences and clinical guidelines into consideration. Most GPs found treatment of moderate depression with	Useful for exploring GP and patient relationship, but lower methodological quality and little discussion around antidepressant treatment duration	MEDIUM

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
practice in this area. A postal survey				antidepressants to be effective and did not believe psychotherapy can replace drug treatment but should act as an adjunct. GPs consider individual experience from family medicine as important in influencing how they work with depressed patients, with some viewing private experience as important. These experiences bear more weighting than continuing medical education (CME) training.		
Bosman, Huijbregts, Verhaak, Ruhé, van Marwijk, van Balkom, & Batelaan (2016) Long-term antidepressant use: A qualitative study on perspectives of patients and GPs in primary care	Netherlands	Qualitative Semi-structured interviews 26 GPs & 38 Patients	To gain insight into possibilities to prevent unnecessary long-term antidepressant use, the motivations and barriers of patients and GPs to continue or discontinue antidepressants were assessed.	While GPs feel they are suitable to provide guidance during discontinuation, some patients do not necessarily agree. Patients feel that GPs lack knowledge and time due to competing demands. There are variations in practice regarding frequency of review consultations, influenced by GP/patient preference and practice guidelines. GPs should be responsible for providing supportive guidance during discontinuation, with some	Good description of methods used, and provides both perspectives of stopping and continuation of long-term antidepressant use, using patient dyads. Allows for greater understanding of patient/practitioner relationship.	HIGH

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
				<p>supportive guidance from social networks.</p> <p>Continuation may result from ignorance or neglect, becoming part of daily routine, or GPs losing contact with patients.</p> <p>Personal circumstances form reasons to continue or discontinue treatment – stressful situations are limited, and patients are motivated. However, patients do not want to be a burden on their social environment.</p> <p>Patients & GPs view antidepressants as chemical and unnatural and see this as motivation to discontinue but believe that antidepressants help with biological causes of depression.</p>		
Brown, Dunbar-Jacob, Palenchar, Kelleher, Bruehlman, Sereika, & Thase (2001) Primary	United States	Mixed Methods Questionnaires & Interviews	A pilot study to determine whether illness cognitions for depression are associated with coping strategies and treatment-related behaviour.	<p>Participants completed a modified version of the IPQ.</p> <p>Identity - all patients experienced anhedonia or depressed mood</p>	Not clear how interviews were conducted with participants and does not say how long treatment duration was (only 5 patients with dysthymia). Would need to	MEDIUM

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
care patients' personal illness models for depression - a preliminary investigation		41 Patients		<p>and at least one other DSM-IV symptom.</p> <p>Cause – varied stressors and heredity were common causes of depressive symptoms, as well as not taking care of physical health, marriage or relationship problems, interpersonal difficulties, medical illness, and reaction to medical illness.</p> <p>Timeline – majority of participant characterised depressive symptoms as fluctuating or intermittent. Nearly half of the participants described depression as chronic.</p> <p>Consequences – n=28 viewed depression as having significant negative consequences whereas only n=3 thought depression had minimal consequences on their life.</p> <p>Perceived controllability – n=26 thought depressive symptoms could be controlled and symptoms would improve in time. N=6 felt symptoms were uncontrollable,</p>	translate findings to patients on long-term treatment with caution.	

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
				<p>with only n=16 believing that treatment could improve symptoms.</p> <p>Timeline, consequences, and cause are associated with illness management behaviours such as prior mental health treatment, current antidepressant treatment and medication adherence.</p> <p>Participants on antidepressant treatment were more likely to believe depression was chronic compared to those not on antidepressants.</p>		
Conradi, de Jonge, & Ormel (2008) Prediction of the three-year course of recurrent depression in primary care patients - Different risk factors for different outcomes	Netherlands	Quantitative Retrospective cohort study 123 Patients	To identify predictors for a three-year course of recurrent depression in primary care patients, and to investigate whether certain outcome indicators are associated with different risk factors	Time to recurrence of depressive episode is predicted by the number of previous episodes. The proportion of depressive disorder-free time and mean depression severity during follow-up are predicted by severity of depression, anxiety, social and physical dysfunction.	Sample taken from participants already taking part in an RCT – therefore may have lower representation of general population as already receiving some intervention/additional involvement in care.	MEDIUM

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
Conradi, Ormel, & de Jonge (2011) Presence of individual (residual) symptoms during depressive episodes and periods of remission - a 3-year prospective study	Netherlands	Quantitative Prospective cohort study 267 Patients	To investigate the prevalence of residual symptoms of DSM-IV depressive symptoms during episode of major depressive episodes and episodes of (partial) remission.	All participants were suffering from a major depressive episode (MDE) at the point of entry, with most symptoms prevalent at baseline. Cognitive problems, lack of energy, sleeping problems and depressed mood were present 58-66% of the time during follow-up. Overall severity was 4.1, meaning at least 4 symptoms of MDE were present all of the time during follow-up. Core symptoms present during MDEs were present 21% of the time during non-MDEs.		MEDIUM
de Jonge, Conradi, Kaptein, Bockting, Korf, & Ormel (2010) Duration of subsequent episodes and periods of recovery in recurrent major depression	Netherlands	Quantitative Prospective cohort study 267 Patients	To prospectively address whether the duration of depressive episodes and recovery are correlated within subjects and across episodes, and whether the duration of subsequent episodes and recoveries increase or decrease over time.	There were no significant correlations between subsequent MDEs within subjects, and no significant correlations between durations of recoveries. No pairwise comparisons of the duration of first, second, and third consecutive MDEs nor consecutive recoveries were significantly different. Median duration of the consecutive MDEs was indicated by 11 weeks for the first, and 9 weeks for the second episode.	Need to consider generalisability of findings and selection bias as GPs may have selected patients with recurrent episodes.	MEDIUM

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
				There was no trend in the decrease of duration of recovery.		
Dickinson, Knapp, House, Dimri, Zermansky, Petty, Holmes, & Raynor (2010) Long-term prescribing of antidepressants in the older population: a qualitative study	England	Qualitative Semi-structured interviews 10 GPs & 36 Patients	To explore the beliefs and behaviours of patients and GPs who have experience of long-term (≥ 2 years) antidepressant prescription.	Three themes identified from the interviews: The benefits of antidepressants: as a mean to alleviate symptoms and contributing to return to function and allow the doctor and patient a feeling of doing something in the face of unsolvable problems. Ambiguities and dissonances in the understanding of depression and its treatment: patients linked a perception of their condition with physical health and felt more at ease treating their condition with medication rather than psychosocial intervention. GPs find it hard to give a definitive diagnosis of depression and treating causes, as well as providing alternative treatments to medication. Barriers to the discontinuation of antidepressants: pessimism about course and curability of chronic	Participants were from older population – need to consider how to generalise to general population.	HIGH

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
				depression, negative expectations and experiences related to ageing, discontinuation as threat to stability, and therapeutic maintenance as desirable.		
Fosgerau, Davidsen, & Annette (2014) Patients' perspectives on antidepressant treatment in consultations with physicians	Denmark	Qualitative Video recordings of consultations 12 GPs & 10 Psychiatrists	To investigate whether GPs attend to patients' perceptions of antidepressant treatment.	For those not already on treatment, GPs introduced the idea of medication with patients by introducing it in a step-wise fashion and wrapped in other issues. Some GPs would ask about the patients' thoughts about starting medication and address concerns. For those already on treatment, GPs would ask patients about the effect of their medication (namely side effects), or patients' thoughts about antidepressants. This allowed for patients to express concerns about their medication.	Duration of antidepressant treatment is not stated.	LOW
Gask, Rogers, Oliver, May, & Roland (2003) Qualitative study of patients' perceptions of the	England	Qualitative Semi-structured interviews	To explore depressed patients' perceptions of the quality of care from GPs.	Three themes: Acceptable quality of care for depression - patients value good interpersonal skills with GP as it provides a core part of treatment	Sample includes both patients experiencing first episodes of depression and those with recurrent episodes.	LOW

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
quality of care for depression in general practice		27 Patients		<p>and support. Communication skills and the feeling of being listened to and understood is valued by patient.</p> <p>Quality of communication with the doctor – depression can make it difficult for some patients to talk with their GP and may feel they are taking up GP time. Others feel that opening up emotionally to GP is not appropriate.</p> <p>Patients' perceptions of the value of continuing with care for depression – ambivalence about staying on medication and attending follow-up consultations may be reinforced by the views of family and friends. GPs do not arrange specific follow-up appointments for patients, leaving it up to the patient to decide when to return and patients requesting prescriptions through repeat.</p>	Participants came via opportunistic recruitment (some selection bias by GPs)	
Gilchrist, & Gunn (2007) Observational	Australia	Systematic Review	Systematic review to determine 1) the nature and scope of the published studies 2) the	Risk factors for persistence of depression are: severity and chronicity of depressive episode,	Focus of systematic review appears to be on patients starting treatment, with short follow-up of	LOW

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
studies of depression in primary care - what do we know?		40 papers from 17 studies	methodological quality of the studies; 3) the identified recovery and risk factors for persistent depression and 3) the treatment and health service use patterns among patients.	presence of suicidal thoughts, antidepressant use, poorer self-reported quality of life, lower self-reported social support, experiencing key life events, lower education level and unemployment. One study found antidepressant use is related to persistent depression at 12-month follow-up.	patients (ranging from 5 months to 3.5 years (mean 12 months). Only 2 studies followed up patients after 12 months.	
Gopinath, Katon, Russo, Ludman, & Evette (2007) Clinical factors associated with relapse in primary care patients with chronic or recurrent depression	United States	Quantitative Retrospective cohort study 386 Patients	In the current study, data from a cohort of primary care patients enrolled in a primary care-based clinical trial (Katon et al., 2001) were analysed to examine clinical and demographic predictors of relapse over a one-year, post-study observational period.	Clinical variables significantly associated with relapse include higher baseline severity, higher neuroticism, lower self-efficacy, lower social functioning, a higher number of depressive episodes, and less adherence to antidepressant medication in the previous 30 days prior to beginning the trial. Low self-efficacy (patient's confidence in their ability to engage in behaviours to manage and prevent further episodes) was the strongest predictor of relapse, followed by poorer medication	Participants recruited to study had received antidepressant prescription 5 weeks previously.	MEDIUM

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
				adherence and more childhood adversity.		
Johnson, Macdonald, Atkinson, Buchanan, Downes, & Dougall (2012 Reviewing long-term antidepressants can reduce drug burden - a prospective observational cohort study)	Scotland	Quantitative Prospective cohort study 2691 Patients	To review patients prescribed the same antidepressant for >2 years and evaluate prescribing and management pre- and post-review.	Patients had been on antidepressants for an average of 5.5 years (SD 3.0), with a range of 2.0 – 24.8 years). 65% (n=1253) had depression as an indication for antidepressants. Of the 2,849 reviewed, 28.5% (n=811) had a change in antidepressant treatment: 7% stopped, 12.8% reduced dose, 5.3% increased dose, and 3.4% changed antidepressant. This resulted in 9.5% reduction in prescribed daily dose and 8.1% in prescribing costs.	Sampling method may be prone to selection bias as GPs were pragmatically able to select patients who they felt would most benefit from review.	HIGH
Johnston, Kumar, Kendall, Peveler, Gabbay, & Kendrick (2007 Qualitative study of depression management in primary care: GP and patient goals,	England	Qualitative Semi-structured interviews 32 GPs, 61 Patients & 18 Supporters	To identify issues of importance regarding depression management among GPs, patients, and patients' supporters.	Four themes identified: Boundary construction and resistance, the self, and 'normal' sadness. Widely ranging goals for the management of depression. GP frustration with chronic depression.	Caution needed as sample included patients who had never had depression included in study, and diagnosis of depression through self-report. However most patients had suffered from recurrent or persistent depression rather than acute.	HIGH

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
and the value of listening)				<p>Failure of GPs to listen to their patients.</p> <p>Focus of findings on illness perceptions and how these perceptions may shape future decisions on management.</p>		
Leydon, Rodgers, & Kendrick (2007) A qualitative study of patient views on discontinuing long-term selective serotonin reuptake inhibitors	England	Qualitative Semi-structured interviews 17 Patients	To explore patient experiences of and beliefs about their long-standing SSRI use and understand the barriers and facilitators to discontinuation.	<p>Patients have some conflict regarding the start of medication. GPs play an important role in facilitating decision-making for patients, providing reassurance and support. There are influential factors when deciding about long-term use. There is uncertainty about the benefits of taking an SSRI, and whether continued use is warranted.</p> <p>Participants fear symptoms of discontinuation along with fears of relapse. Fears and concerns lead to patient continuing treatment, with little to no consultation/review with GP.</p>	Participants were recruited from one practice. Long-term defined as >12 months, rather than >2 years. Patients who were 'deemed well enough' recruited – not sure what this means. GP screened patient list prior to invitation letters sent out – some selection bias?	HIGH
Lin, Campbell, Chaney, Liu, Heagerty, Felker, &	United States	Quantitative Prospective cohort study	To explore factors associated with treatment preference matching	Patients who preferred both medication and psychotherapy as treatment were more likely to	Some patients were receiving additional care that may not have been part of usual practice.	LOW

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
Hedrick (2005) The influence of patient preference on depression treatment in primary care		335 Patients	and its effect on depression treatment outcomes.	<p>agree that depression is a medical illness and less likely to agree that depression is a personal problem compared to those who have a preference either medication only or psychotherapy only.</p> <p>Patients who have a preference for medication only treatment were more likely to currently be taking antidepressants compared to those with a preference for psychotherapy or medication and psychotherapy treatment.</p> <p>Participants matching their treatment preference are likely to have improved depression symptomatology, but this is only at the beginning of treatment.</p> <p>Difference between depression severity between matched and unmatched treatment preference groups is not statistically significant at 9-month follow-up.</p>	<p>Sample taken from Veterans Affairs Primary Care setting, therefore would need to question generalisability.</p> <p>Not clear on average treatment duration of those currently on antidepressants.</p>	
Lynch, Kendrick, Moore, Johnston, & Smith (2006) Patients' beliefs	England	Quantitative Cross-sectional questionnaire survey	The primary aim of the study was to quantify beliefs about depression among patients in a UK primary care sample and to	Beliefs about depression, along with some demographic variables are predictive of duration of antidepressant use.	Data on duration of antidepressant treatment duration based on self-report. Three quarters of responders	HIGH

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
about depression and how they relate to duration of antidepressant treatment - use of a US measure in a UK primary care population		208 Patients	determine whether there was a significant relationship between beliefs and duration of antidepressant treatment.	Beliefs are representative of Leventhal's model of illness cognitions. Antidepressant treatment duration is longer in older participants, those who hold the belief that antidepressants help, medical illness causes depression, and that depression is chronic. Beliefs account for 35% of the variability in the duration of medication.	reported duration over six months. Low response rate (33%). How patient beliefs translate to those on longer-term treatment needs to be considered.	
Middleton, Cameron, & Reid (2011) Continuity and monitoring of antidepressant therapy in a primary care setting	Scotland	Quantitative Database analysis 191 Patients	To assess continuity of antidepressant therapy in a UK primary care setting at the individual patient level and whether this therapy is conducted with appropriate review.	More than half of patients receive antidepressant therapy that is too short in duration, and less than a third of patients who experienced 3 or more previous treatment episodes receive two or more years of antidepressant therapy, suggesting that participants that warrant long-term use do not receive appropriate treatment. Patients are reviewed more frequently at the start of treatment, which highlights the need for more review. Those who	Greater focus on medication adherence at the start of treatment and early discontinuation.	MEDIUM

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
				were not reviewed had a history of previous treatment.		
Nolan & Badger (2005) Aspects of the relationship between doctors and depressed patients that enhance satisfaction with primary care	England	Qualitative Semi-structured interviews 60 Patients	<p>The aims of the study were to explore what factors lead patients to consider that they have a satisfactory relationship with their prescribing clinician, and what kind of information they find reassuring and helpful.</p> <p>To examine how medication regimens are monitored and what kind of follow-up patients appreciate, and to identify pointers for establishing effective therapeutic relationships between patients and prescribing clinicians.</p>	<p>GPs are seen as first point of contact, despite some apprehension and fear of opening up by patients. Patients discussed the importance of being able to see a GP they were comfortable with, but fear lack of continuity of care having to see a different GP at follow-up.</p> <p>There was some discussion about concerns and advice about taking antidepressants at the initial consultation, but there did not seem to be much discussion about long-term use.</p> <p>All patients value treatment being monitored but types of monitoring varied between GPs.</p> <p>Patients felt there was still some stigma and had little information about alternative forms of support.</p>	<p>Large focus on patient and practitioner relationship, in terms of what advice is given, monitoring, and review.</p> <p>However poor methods section, low generalisability in terms of sample and how data were analysed.</p>	HIGH

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
Railton, Mowat, & Bain (2000) Optimizing the care of patients with depression in primary care - the views of general practitioners	Scotland	Qualitative Semi-structured interviews 15 GPs	To explore the task of caring for patients in the context of depressive illness through the perceptions and experiences of GPs.	GPs experience difficulties in managing patients with depression due to organisational issues (appointment lengths, continuity of care); referral and response of other services (creating and maintaining relationship with psychiatrists, counsellors). Other issues were around treatment and management (actual use of guidelines in practice, providing 'talking therapy' in the consultation, using guides to decisions antidepressant therapy, and patient practitioner relationship.	Data collected in 1998 – not as current as data from other studies. Focus of interviews appears to be on initial treatment and management rather than on patients on long-term antidepressant treatment.	LOW
Richards, Ryan, McCabe, Groom, & Hickie (2004) Barriers to the effective management of depression in general practice	Australia	Quantitative Questionnaire Survey 420 GPs	The aim of this study was to investigate the effects of prior general practice training in mental health and practice location on general practitioner (GP) attitudes toward depression, self-confidence in assessing and treating depressed patients, identification of doctor, patient and practice barriers to the	GPs with more positive attitudes towards mental health more likely to access mental health training. GPs with more training in mental health have greater confidence to diagnose, treat and monitor patients with depression. GPs who had received mental health training were more likely to	Little discussion around managing patients on long-term antidepressants.	LOW

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
			effective care of depressed patients in general medical practice and GP-reported current clinical practice.	refer patients to non-pharmacological treatments.		
Rogers, May, & Oliver (2001) Experiencing depression, experiencing the depressed: the separate worlds of patients and doctors	England	Qualitative Semi-structured interviews 10 GPs & 27 Patients	To explore lay experiences of depressed people in relation to the negotiation of contact with primary care and draw into this the experiences of clinicians who treat them.	Patients tended to seek help when they were struggling to cope with life-circumstances, but saw help from GP as relatively minor in the context of what they were going through. Patient expectation of what help could be given shaped by previous experience. GPs management of depression is shaped and constrained by medical knowledge and practices, as well as individual preferred treatment decisions.	Selection bias in sample (GPs referred patients to study), of patients who had consulted with moderate depression over a 1-month period. May not be applicable to those on long-term antidepressants who had not sought a consultation with GP (although sample includes those with 'long-term depression' where duration is not defined).	LOW
Schwenk, Evans, Laden, & Lewis (2004) Treatment outcome and physician-patient communication in primary care patients with	United States	Quantitative Questionnaire Survey 1001 Patients	To assess the adequacy of control, quality of life, and treatment experiences of patients with chronic, recurrent depression.	53.3% of patients said that decision around treatment option was shared between GP and patient, whereas 25.3% had GP making decision for them. Two-thirds would prefer to discuss all options with GP prior to making a decision.	Sample of participants includes those who had been on treatment for 1 year or longer (small percentage (20.3%).	HIGH

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
chronic, recurrent depression				<p>The majority of patients felt well informed about their treatment, but felt their depression had not been completely controlled within last 2 months.</p> <p>Despite patients reporting their depression as mild or moderate, most reported they were very or somewhat satisfied with their life, and reported overall health as excellent, very good, or good.</p> <p>Duration of antidepressant treatment correlated with patients' perceptions of the degree to which their depression was controlled. 73.9% of patients on antidepressants for more than 1 year believed their treatment to be either completely or well-controlled.</p> <p>61.6% of patients recalled being told about side-effects of antidepressants (including loss of libido, weight gain, and anxiety).</p>		
Sinclair, Aucott, Lawton, Reid, & Cameron	Scotland	Quantitative Retrospective	To measure the frequency of treatment monitoring for patients on longer courses of	Median number of antidepressant review consultations during first 10 years of antidepressant	Sample includes patients prescribed antidepressants for	HIGH

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
(2014) The monitoring of longer-term prescriptions of antidepressants - observational study in a primary care setting		case-note audit 206 Patients	antidepressant treatment, and to identify patient characteristics associated with treatment monitoring.	therapy decreased by increasing year number. Referral to CMHT, using non-pharmacological therapy, increased number of drug or dose changes associated with increased frequency of reviews between years 1-5. No patient characteristics associated with the frequency of review consultations for years 1-5 of antidepressant therapy. The results suggest 'a progressive decrease in the adequacy of monitoring over time'. The authors state it is not possible to know whether patients were actually taking antidepressants.	conditions other than depression (but this number is very small).	
Suija, Aluoja, Kalda, Maaros, & Heidi-Ingrid (2011) Factors associated with recurrent depression: a prospective study in family practice	Estonia	Quantitative Prospective cohort study 123 Patients	To determine factors associated with recurrent depression.	Factors significantly associated with recurrent depression were lower education level, unemployment, financial difficulties, aged 40-59 years, disabilities, history of panic attacks, low satisfaction in relationship with partner, comorbid respiratory illness,	Patients recruited opportunistically, so some risk of selection bias. Generalisability of findings need to be considered. Only 12-month follow-up.	LOW

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
				<p>prescribed antidepressants, child abuse and/or trauma, and discrimination.</p> <p>About one-third of patients with major depression also experienced a recurrent episode of depression 12 months later. However, most patients stayed in remission.</p> <p>No association was found between recurrence of depression and gender, marital status, or education level. Recent major life events did not predict recurrence of depression.</p> <p>Use of prescribed antidepressants cannot prevent recurrence of depression, but neither adherence nor antidepressant duration were measured</p>		
Sullivan, Katon, Russo, Frank, Barrett, Oxman, & Williams (2003) Patient beliefs predict response to paroxetine	United States	Quantitative Retrospective cohort study 333 Patients	To examine the role of patient beliefs in the context of other relevant patient characteristics to determine whether they helped predict response to antidepressants or placebo.	Patient beliefs are not predictive of adherence to paroxetine or placebo. Patients with better response to paroxetine or placebo had lowered biological beliefs about depression. Patients may respond better to antidepressant	Paper focusses on implications for adherence rather than discontinuation.	LOW

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
among primary care patients with dysthymia and minor depression				treatment if they see themselves as generally healthy and do not see their depression as a biological illness. Paper focusses on implications for adherence rather than discontinuation.		
van Weel-Baumgarten, van den Bosch, Hekster, van den Hoogen, & Zitman (2000) Treatment of depression related to recurrence - 10-year follow-up in general practice	Netherlands	Quantitative Database analysis 222 Patients	To study outcomes related to long-term treatment of depression and differences in treatments for first episodes of depression in patients with and without recurrences.	Patients who had recurrences of depressive episodes received more treatment than individuals with just one episode of depression. 52 patients had more than 2 episodes and had 79% treated with antidepressants compared to just 50% treated with antidepressants if only one episode (n=134).	Data are collected pre-2000 and examine treatment with tricyclics, whereas treatment includes SSRIs now. Focus on start of treatment and subsequent adherence rather than discontinuation.	LOW
Verbeek-Heida & Mathot (2006) Better safe than sorry: why patients prefer to stop using selective serotonin reuptake inhibitor (SSRI)	Netherlands	Qualitative Semi-structured interviews 16 Patients	The objective of this study is to provide insights into these processes of decision making from the patients' point of view, in the hope that this might be useful for doctors when they talk with patients about continuing or stopping SSRIs.	Participants were generally positive about the effects of their antidepressants, after a period of uncertainty around their effectiveness. The time taking to adjust to medication led to patients accessing other therapies as well as self-experimentation.	Small sample size (16) so need to query generalisability. Sample includes those who had been on antidepressants for 6 months (not clear how many). Nine participants discussed experience of stopping in the past.	HIGH

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
antidepressants but are afraid to do so - results of a qualitative study				There was widespread fear and uncertainty about stopping, as they felt 'normal' with medicines and were uncertain whether this would stay if they stopped. Patients were reluctant to stop the equilibrium – uncertain whether they were feeling better because of remission, or because of antidepressants. Doctor seen as a useful source for discussing stopping or continuing.		
Wilson, Duszynski, & Mant (2003) A 5-year follow-up of general practice patients experiencing depression	Australia	Quantitative Retrospective case-note audit 382 Patients	This research set out to explore both the longitudinal management and outcomes of depression as seen in general practice.	Study showed a high rate of antidepressant prescribing, with GPs prescribing short courses, and depression behaves as a chronic, recurrent disease.	Data collected between 1994-1999	LOW
Wouters, Van Dijk, Van Geffen, Gardarsdottir, Stiggelbout, & Bouvy (2014) Primary-care patients' trade-off preferences with	Netherlands	Quantitative Questionnaire Survey 225 Patients	To examine patients' trade-offs between the efficacy, side-effects, and other drawbacks of antidepressants, and whether these trade-offs predict non-adherence.	Symptom relief seen to be of highest importance for patients taking antidepressants. Some participants took loss of libido and weight gain into consideration, as well as the need for additional psychotherapy.	Study focusses on how benefit/drawback relates to adherence/non-adherence rather than discontinuation, as well as adherence of patients in the maintenance phase. Sample does include 37 using antidepressants for 1-4 years and 120 for more	LOW

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS	Priority
regard to antidepressants				Almost 1 in 5 patients had a benefit/drawback ratio indicating that they considered side-effects and other drawbacks of antidepressants equally or more important than the efficacy of antidepressants.	than 4 years, but not clear if continuous use. No indication of whether trade-off preferences change over time.	

Appendix C Mixed Methods Appraisal Tool Criteria

Types of mixed methods study components or primary studies	Methodological quality criteria	Responses		
		Yes	No	Can't tell
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?			
	Do the collected data allow address the research question (objective)? E.g., consider whether the follow-up period is long enough for the outcome to occur (for longitudinal studies or study components).			
	Further appraisal may be not feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions			
1. Qualitative	1.1. Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)?			
	1.2. Is the process for analysing qualitative data relevant to address the research question (objective)?			
	1.3. Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected?			
	1.4. Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants?			
2. Quantitative randomized controlled (trials)	2.1. Is there a clear description of the randomization (or an appropriate sequence generation)?			
	2.2. Is there a clear description of the allocation concealment (or blinding when applicable)?			
	2.3. Are there complete outcome data (80% or above)?			
	2.4. Is there low withdrawal/drop-out (below 20%)?			
3. Quantitative nonrandomized	3.1. Are participants (organizations) recruited in a way that minimizes selection bias?			
	3.2. Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes?			

Types of mixed methods study components or primary studies	Methodological quality criteria	Responses		
		Yes	No	Can't tell
	3.3. In the groups being compared (exposed vs. non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups?			
	3.4. Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up)?			
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)?			
	4.2. Is the sample representative of the population under study?			
	4.3. Are measurements appropriate (clear origin, or validity known, or standard instrument)?			
	4.4. Is there an acceptable response rate (60% or above)?			
5. Mixed methods	5.1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)?			
	5.2. Is the integration of qualitative and quantitative data (or results*) relevant to address the research question (objective)?			
	5.3. Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative and quantitative data (or results) in a triangulation design?			
	Criteria for the qualitative component (1.1 to 1.4), and appropriate criteria for the quantitative component (2.1 to 2.4, or 3.1 to 3.4, or 4.1 to 4.4), must be also applied.			

Appendix D Application of Mixed Methods Appraisal Tool to papers

D.1 Ambresin G, Palmer V, Densley K, et al. What factors influence long-term antidepressant use in primary care? Findings from the Australian diamond cohort study. *Journal of affective disorders* 2015;176:125-32.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	Aim: "To examine in detail the socio-demographic, clinical factors and health service use characteristics associated with long-term antidepressant use for depressive symptoms in a primary care cohort recruited on the basis of their depressive symptom count." Objective: To extend understanding of the factors that may be driving the increase in antidepressant use.
	Do the collected data allow address the research question (objective)?	Yes	780 participants from 30 randomly selected practices in Australia that were part of the Diamond Cohort Study. GP practices broadly representative of GP population. 787 (99.7%) had complete data so this number were used for analysis. Data collected relevant to aims and objectives; however rely on self-report as medical records could not be accessed, so this should be considered. As this is a cross-sectional study need to be mindful of confounding variables.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Sample is a cohort from a representative sample from the Diamond Cohort Study. Demographic data are presented and are representative of those with depressive symptoms in Australian Primary Care.
	Is the sample representative of the population under study?	Yes	GP practices broadly representative of GP population. Statistics provided on proportion on long-term use and evidence of symptoms which resonates with other demographics from other studies. Mean age across groups (current LT, ST users v non-users) similar (~45 years old) and predominantly female. Need to be aware that data may not translate to culturally different or adolescent populations.

Category of study designs	Methodological quality criteria	Response	Comments
	Are measurements appropriate?	Yes	<p>Data collected using pre-validated and popular questionnaires:</p> <p>1) Composite International Diagnostic Interview to measure MDD diagnosis;</p> <p>2) PHQ 9 for depression severity;</p> <p>3) Social Participation Index, Psychosis Screening Questionnaire, Standardised assessment of Personality, FAST Alcohol screening test, General Practice assessment survey, PRIME MD (anxiety) and Trust in Physician Questionnaire etc. used for demographic data.</p> <p>Categories of length of antidepressant use calculated using patient use of AD in past year and currently using (creating no use, short term (< 2years) and long-term (>2 years)).</p> <p>Duration follows 2009 NICE guidelines.</p>
	Is there an acceptable response rate?	Yes	99.7% of sample had complete data.

D.2 Andersson SJ, Troein M, Lindberg G. General practitioners' conceptions about treatment of depression and factors that may influence their practice in this area. A postal survey. *BMC Family Practice* 2005;6(1):21.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	Aims are stated to elaborate further the frequencies of Swedish GP's conceptions of depressive disorders and its treatment and of their ideas of factors that may influence their manner of work with depressive patients
	Do the collected data allow address the research question (objective)?	Yes	Data collected are relevant to the research aims and objectives (postal questionnaire data (cross-sectional)).
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Sampling strategy appears relevant (stratified sampling to obtain a representative sample of the population). Sample of GPs based on the population's purchases of antidepressants on each GP's working area. Selected highest, average, and lowest AD sales rates. 617 GPs from a total of 60 municipalities. Need to be aware that questionnaires sent out from NEPI foundation (non-profit organisation for studies on epidemiology of drugs) - could this influence which participants took part?
	Is the sample representative of the population under study?	Yes	56% of 339 men responded and 65% of 196 women responded. Average age was 48.7 years and worked for an average of 12.7 years (no further descriptive statistics). Non respondent demographic data provided. Not clear how many of sample were from high/low/average prescribing municipalities.
	Are measurements appropriate?	No/Can't tell	Questionnaire was developed by authors and piloted with 20 GPs which had 75% response rate and no internal drop off. No clear indication of layout of questionnaire or formatting of questions (questions are briefly described in results tables). Authors acknowledge no validity testing but assume reliability and validity from piloting. No mention of what modifications were made to questionnaire.

Category of study designs	Methodological quality criteria	Response	Comments
			Why give a 5-point scale then combine scales into 3-points for reporting? May skew findings.
	Is there an acceptable response rate?	No	317 of 617 mailed questionnaires were returned, with 82 leaving their place of work. 535 GPs were eligible (response rate = 59.4). Low but in line with other response rates to surveys. Authors list response rate as a potential limitation.

D.3 Bosman RC, Huijbregts KM, Verhaak PF, et al. Long-term antidepressant use: a qualitative study on perspectives of patients and GPs in primary care. *Br J Gen Pract* 2016;66(651):e708-19.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	Aim: To gain insight into possibilities to prevent unnecessary long-term antidepressant use, the motivations and barriers of patients and GPs to continue or discontinue antidepressants were assessed
	Do the collected data allow address the research question (objective)?	Yes	Data collected between October 2014 and June 2015. Patient interviews had mean duration of 49 minutes and GP interviews had a mean time of 45 minutes (ranges stated in paper). Topic guide included and shows questions asked in interviews related to aims.
Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Recruited participants had anxiety and/or depression. Assessing patient/GP dyads so sample included patients with their own GP. GPs recruited from practices affiliated with Universities (generalisability?) and asked to recruit patients (selection bias? - reported as limitation) Eligibility criteria clearly stated - self-diagnosis of depression and/or depressive disorders. All participants over 30. Good spread of age groups, more female than male, even rural/urban, more European (only 1 ethnic minority). Majority had attempted discontinuation but restarted because of relapse/recurrence. Duration of AD treatment 1 to >19 years (can be indicative of LT use). Authors state those with duration 1-4 years = continuous treatment. Uncertain about what definition of "long-term" use is in this paper. Patients eligible if >6m use but then reported as 1 year?

Category of study designs	Methodological quality criteria	Response	Comments
	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Yes	Analysis method clearly described. Constant comparison method used with iterative process of data analysis (maximises knowledge of participants considerations). "Instrumental pragmatic approach". Analysis discussed with team during data collection. However no checking with participants. Data saturation reached and checked with four interviews; analytic software used. Translated from Dutch to English. Could context be lost in translation?
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	Use of quotes to support interpretation of data. Reporting of data appears to be objective and illustrations of supporting/conflicting findings. Sample from widespread area of Netherlands so able to generalise across urban/rural areas.
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Yes	Four interviewers had limited clinical experience and may have missed cues for further questioning but had experience in qualitative interviewing.

D.4 Brown C, Dunbar-Jacob J, Palenchar DR, et al. Primary care patients' personal illness models for depression: a preliminary investigation. *Fam Pract* 2001;18(3):314-20.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	A hypothesis is clearly stated: that illness cognitions will be significantly associated with self-reported coping strategies independent of depressive severity. An objective is laid out in the abstract: to determine whether primary care patients' illness cognitions for depression are associated with depression coping strategies and treatment related behaviour.
	Do the collected data allow address the research question (objective)?	Yes	The data collected via questionnaire were appropriate for the research question. Patients were recruited from GP surgery waiting rooms and participants involved in ongoing primary care study. Outcome measures were all assessed using validated questionnaires. It is unclear how interviews were conducted to ask participants about symptom management strategies. Data does rely on self-report so need to be aware of potential subjective bias.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	
	Is the sample representative of the population under study?	No	GP waiting room - are those who have been selected to take part depressed or is this based on self-report?
	Are measurements appropriate?	Yes	All using validated questionnaires.
	Is there an acceptable response rate?	Yes	

D.5 Conradi HJ, de Jonge P, Ormel J. Prediction of the three-year course of recurrent depression in primary care patients: different risk factors for different outcomes. *J Affect Disord* 2008;105(1-3):267-71.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The objectives of this study are: (1) identification of predictors for the three-year course of recurrent depression in the rarely studied, but relevant sample of primary care patients, and (2) investigation whether different outcome indicators, time to recurrence, proportion depression-free time and mean severity of depressive symptoms during follow-up, are associated with different risk factors.
	Do the collected data allow address the research question (objective)?	Yes	Depression course was assessed 3-monthly over a 3-year period.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Sample taken from those taking part in Conradi's RCT looking at effectiveness of psycho-educational prevention programme compared to usual care (two groups pooled as did not differ on outcome indicators and may therefore be representative).
	Is the sample representative of the population under study?	Yes	Participants typical of samples found in other depression studies: Predominantly white, female, married, employed. Severity of depression seems equal (30.9% mild, 29.3% moderate, 39.8% severe). 81.3% on antidepressants and 65% had more than 3 episodes.
	Are measurements appropriate?	Yes	Adapted depression section of the CIDI (Validated questionnaire), that measures presence of each of the 9 DSM-IV depressive symptoms per week in the previous 3 months. Predictor variables were socio demographics, parental depression, and depression history.
	Is there an acceptable response rate?	Yes	110 patients

D.6 Conradi HJ, Ormel J, de Jonge P. Presence of individual (residual) symptoms during depressive episodes and periods of remission: a 3-year prospective study. *Psychol Med* 2011;41(6):1165-74.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	Residual depressive symptomatology was examined in a 3-year prospectively followed sample of primary care patients.
	Do the collected data allow address the research question (objective)?	Yes	Participants were followed up over a 36-month period, having assessments for presence of DSM-IV symptoms every 3 months.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Participants were taking part in an RCT (same study as paper 05) looking at effectiveness of Psychoeducation intervention, CBT, and usual care
	Is the sample representative of the population under study?	Yes	Sample size of 267 initially depressed primary care patients followed-up over 3 years
	Are measurements appropriate?	Yes	Composite International Diagnostic (CIDI) administered face-to-face. CIDI has good reliability and validity. Every 3 months participants were called and interviewed, including being asked depression-related questions from the CIDI, to establish presence or absence of DSM-IV criteria.
	Is there an acceptable response rate?	Yes	Prospective study, so data is complete for all 267 patients. All patients were included in analysis.

D.7 de Jonge P, Conradi HJ, Kaptein KI, et al. Duration of subsequent episodes and periods of recovery in recurrent major depression. *J Affect Disord* 2010;125(1-3):141-5.

Category of study designs	Methodological quality criteria	Response	Comment
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	A prospective assessment whether duration of depressive episodes and recoveries is correlated within subjects and across episodes, and whether duration of subsequent depressive episodes and recoveries increases or decreases over time.
	Do the collected data allow address the research question (objective)?	Yes	Participants were followed up over a 36-month period, having assessments for presence of DSM-IV symptoms every 3 months.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Participants recruited to RCT (n= 267), same cohort of papers 05, 06).
	Is the sample representative of the population under study?	Yes	Participants recruited to RCT (n= 267), same cohort of papers 05, 06).
	Are measurements appropriate?	Yes	Patients repeatedly assessed, every 3 months during a period of 3 years, with the depression section of the CIDI.
	Is there an acceptable response rate?	Yes	Prospective study, so data is complete for all 267 patients. All patients were included in analysis.

D.8 Dickinson R, Knapp P, House AO, et al. Long-term prescribing of antidepressants in the older population: a qualitative study. *Br J Gen Pract* 2010;60(573):e144-55.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The study aimed to explore the attitudes of older patients and their GPs to taking long-term antidepressant therapy, and their accounts of the influences on long-term antidepressant use.
	Do the collected data allow address the research question (objective)?	Yes	Topic guides included in appendix, with relevant qualitative questions.
Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Participants recruited from 8 practices in one primary care trust in North Bradford, with a mixture of housing type and socioeconomic status. Participants were those over 75 years in continuous receipt of antidepressants over previous 2 years. 435 identified, 35 interviewed. Flow chart of recruitment illustrated. GPs who treated patients were also interviewed.
	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Yes	Semi-structured interviews were conducted. Interviews were recorded and transcribed, and field notes collected. Data analysed using framework analysis. Justification of framework analysis given. Analysis conducted by multiple coders who attended data sessions.
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	Findings are considered within the context of primary care settings and older populations.

Category of study designs	Methodological quality criteria	Response	Comments
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Yes	Reports using in-depth interviews and a multidisciplinary and reflective approach. Attempts to recruit purposively were made, and team discussion used to try to minimise undue influence. Comparisons made with existing literature.

D.9 Fosgerau CF, Davidsen AS. Patients' perspectives on antidepressant treatment in consultations with physicians. *Qualitative Health Research* 2014;24(5):641-53.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The aim of the study was to investigate whether physicians attended to patients' perspectives on antidepressant medication. Investigated which perspectives patients disclosed and how perspectives were responded to by physicians.
	Do the collected data allow address the research question (objective)?	Yes	Data collected through video consultations - able to see direct interaction between patients and GPs/Psychiatrists
Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Recorded video consultations with patients suffering from depression. Participants were sampled purposively. 12 GPs and 10 psychiatrists from Denmark participated in the study. Need to be considerate of fact that while those who saw psychiatrist were outpatients, may not be as translatable to primary care setting. Some patients may have had comorbidities, but HPs were asked to record consultations with those that met criteria for depression according to ICD-10. Most results reported are from those in GP consultations.
	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Yes	Conversation analysis and systemic functional linguistics. The use of SFL focuses on participant's orientation of what is going on and how they are contributing to conversation on a turn-by-turn basis.
	Is appropriate consideration given to how findings relate to	Yes	Need to be considerate of fact that while those who saw psychiatrist were outpatients, may not be as translatable to primary care setting. Some patients may have had

Category of study designs	Methodological quality criteria	Response	Comments
	the context in which the data were collected?		comorbidities, but HPs were asked to record consultations with those that met criteria for depression according to ICD-10. 12 GPs made 13 videos, 10 Psychologists made 15 videos. Need to be aware that videos with Psychologists were longer, reflecting different working conditions between GPs and Psychologists. This may have an impact on how conversation pans out?
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Yes	The authors note that CA does not offer a framework to account for the ways in which given grammatical structures enact meaning. The analysis will involve common-sense ideas of the work that different grammatical realisations do. The researcher therefore may develop 'best-fit' heuristic.

D.10 Gask L, Rogers A, Oliver D, et al. Qualitative study of patients' perceptions of the quality of care for depression in general practice. *Br J Gen Pract* 2003;53(489):278-83.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The study aims to explore how the experience of being depressed affects how people view their care and the quality of care that they receive.
	Do the collected data allow address the research question (objective)?	Yes	Semi-structured interviews with patients undergoing current treatment for mild to moderate depression. 10 GPs were recruited (10% of 100 approached). GPs asked to refer patients over a period of one month - could this lend itself to recruitment/selection bias by GPs? This is noted by authors Interview guide used (included in appendix) and asked questions relevant to collecting suitable data to answer the research question. Three themes: the difficulty of defining and agreeing what is 'acceptable' quality of care for depression, quality of communication with the doctor, patients perceptions of the value of continuing with care for depression. "Quality of care" was not pre-defined - views of what good quality of care may differ across participants.
Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Sampling of GP practices to recruit from suburban and inner-city settings in Manchester. Need to consider bias from GPs in recruitment - as research question exploring how depression is treated in GP consultation - could those recruited be more positive about experience?

Category of study designs	Methodological quality criteria	Response	Comments
			Paper says that 27 patients were 'purposively sampled' - how was this possible (refer to paper 22)
	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Yes	Analytic approach not stated in the manuscript but assume it is thematic analysis? Constant comparison method used and discussion between authors noted.
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	While it is not suggested that the specific results are generalisable to British general practice, we have attempted to delineate the range of views that depressed patients may commonly hold about their care and the reasons patients might have for holding these views.
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	No	This is not stated anywhere in the paper

D.11 Gilchrist G, Gunn J. Observational studies of depression in primary care: what do we know? *BMC Fam Pract* 2007;8:28.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	Conducted a systematic review of observational studies in primary care to determine: 1) the nature and scope of published studies 2) the methodological quality of the studies 3) the identified recovery and risk factors for persistent depression 4) the treatment and health service use patterns among patients
	Do the collected data allow address the research question (objective)?	Yes	9 of the 17 studies aimed to describe the course of depression over time and identify risk factors associated with recover or improvement in depression. 4 studies examined detection of depression by the practitioner and depression outcome 1 examined seasonality prevalence and incidence of depressive order 1 examined process and outcomes of rural depression 1 examined outcomes for cases 'missed' at the screening encounter 1 examined prevalence of Bipolar 2 disorder with depressive and anxiety subtypes 1 examined whether managed care was associated with reduced access to mental health specialists and poorer outcomes among patients with depressive symptoms. Follow-up ranged from 20 weeks to 3.5 years (most 12m)
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Prospective observational studies where primary care patients were screened for depression and followed over time (what duration?). Includes 3 review articles that described prevalence and course of depression in primary care. Participants in RCTs were excluded as data collected needed to be from naturalistic setting and may not be representative. Clear search strategy outlined

Category of study designs	Methodological quality criteria	Response	Comments
	Is the sample representative of the population under study?	Yes	Based on inclusion/exclusion criteria and the authors state there are some methodological limitations to the studies included in the review, including small sample sizes and limitations on sampling
	Are measurements appropriate?	Yes	Approaches to sampling and criteria of studies to be included seems appropriate.
	Is there an acceptable response rate?	Yes	432 papers identified using search strategy. 51 subjected to comprehensive review, 24 excluded as did not meet criteria. 40 articles from 17 observational prospective cohort studies were identified; 27 from the original search and 13 from secondary references.

D.12 Gopinath S, Katon WJ, Russo JE, et al. Clinical factors associated with relapse in primary care patients with chronic or recurrent depression. *J Affect Disord* 2007;101(1-3):57-63.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	Data from a cohort of primary care patients enrolled in a primary care based clinical trial were analysed to examine clinical and demographic predictors of relapse over a one-year, post-study observational period.
	Do the collected data allow address the research question (objective)?	Yes	The data relies on retrospective self-report from participants, therefore there is potential for recall bias.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Patients recruited to RCT from 4 large primary care clinics in America, that serve approximately 88,000 patients. Patients from 18 - 80 years old who were prescribed an antidepressant from a primary care physician with a diagnosis of anxiety or depression were recruited.

Category of study designs	Methodological quality criteria	Response	Comments
	Is the sample representative of the population under study?	Yes	<p>Eligibility criteria were those who were currently recovered from depression but at high risk of relapse using the "Structured Clinical Interview for DSM-III-R". Those who no longer met the criteria for MDD were enrolled.</p> <p>Individuals with history of 3 or more episodes of MDD and either a) <4 MDD symptoms or >4 residual depressive symptoms but with a mean SCL-20 score of <1.</p> <p>A total of 120 patients relapsed over the 12-month period with no difference in relapse rates between intervention and control patients</p> <p>The sample has limited diversity and low generalisability as recruited from one primary care site</p> <p>Participants had partially recovered at baseline, therefore those with persistent severe depressive symptoms were excluded so may lower representation</p>
	Are measurements appropriate?	Yes	<p>Demographic information obtained at baseline interview: age, gender, ethnicity, employment status, marital status, number of persons in household, and education level. Clinical variables were assessed at the baseline interview and at 3, 6, 9, and 12 months.</p> <p>Clinical variables were assessed over the phone via blinded telephone interviews (?).</p> <p>Used several validated questionnaires that looked at symptoms, depression relapse, self-efficacy, quality of life, personality, life events and perceived general health. Prescription records were accessed and adherence and beliefs about medication questionnaires were used. Family history and previous adherence were also measured.</p>
	Is there an acceptable response rate?	Yes	<p>Analysis was conducted on all 386 patients that were recruited to the RCT. 194 were randomised to intervention group, 192 to usual care group.</p>

D.13 Johnson CF, Macdonald HJ, Atkinson P, et al. Reviewing long-term antidepressants can reduce drug burden: a prospective observational cohort study. *Br J Gen Pract* 2012;62(604):e773-9.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The aim of the study was to review general practice patients prescribed the same antidepressant long term (more than 2 years) and evaluate prescribing and management pre- and post- review
	Do the collected data allow address the research question (objective)?	Yes	Data were collected from Prescribing and Information System for Scotland (PRISMS): a web-based application providing information for all community dispensed prescriptions and reports at practice. Defined daily doses (DDDs) enables a convenient method to compared different formulations of medicines and prescribing volumes between difference organisations. Data were collected for prescriptions issues between November 2009 - March 2010. Reviews were conducted between December 2009 - September 2010
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Patients prescribed the same antidepressant for >2 years were identified using data extraction from medical records. The tool identified patients prescribed an antidepressant within the previous 3 months and patients prescribed the same antidepressant for 2 years or more. Patients were excluded if they had a GP f-2-f appointment antidepressant review within the preceding 6 months. Practices were asked to review and submit forms for a proportion of all registered patients: 30 per 4000 patients. GPs were not given sampling framework so were able to pragmatically select patients they felt may benefit most from review - leads to selection bias? (Authors note this).

Category of study designs	Methodological quality criteria	Response	Comments
	Is the sample representative of the population under study?	Yes	Prescribing data in Greater Glasgow & Clyde, collected from 10 local CHCPs which provide healthcare services for a diverse population of approximately 1.2 people across a varied geographical area. From participating practices, forms for 2849 (18.2% of those prescribed long-term antidepressants). No significant differences were found between participating/non-participating practices
	Are measurements appropriate?	Yes	At review GPs completed a standardised review form recording date of review, CHCP, Practice, Name of antidepressant therapy, daily dose, changes in therapy and any onward referral, duration of current antidepressant
	Is there an acceptable response rate?	Yes	No sample size calculated for research purposes (justified in paper). Known that patient numbers would be sufficiently high to permit analysis. Eighty-one percent (78/96) of practices agreed to participate, with 7 dropping out due to practice and computer problems.

D.14 Johnston O, Kumar S, Kendall K, et al. Qualitative study of depression management in primary care: GP and patient goals, and the value of listening. *Br J Gen Pract* 2007;57(544):872-9.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	To identify issues of importance to GPs, patients, and patients' supporters regarding depression management. GP and patient goals for depression management became a focus of the study.
	Do the collected data allow address the research question (objective)?	Yes	Data collected with a large sample. Need to be wary of those included who had never had depression, and that diagnosis of depression was through self-report rather than clinical diagnosis. Topic guide provided - questions focussed on research aims of exploring beliefs and attitudes
1. Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Interviews with GPs from 28 practices and patients and supporters from 10 of these practices. 61 patients (28 depressed, 18 previously depressed, 15 never depressed), 18 supporters, and 32 GPs. Recruitment criteria and data were refined through theoretical sampling and analytic saturation. Purposive sampling carried out. Most participants had suffered from recurrent or persistent depression rather than acute (relevant for CIS). Predominantly white sample, more female carers and patients, more male GPs.
	Is the process for analysing qualitative data relevant to	Yes	Grounded theory based qualitative study. Data were analysed iteratively, using a semi-structured topic guide, with later focus on emerging themes. Constant comparison of

Category of study designs	Methodological quality criteria	Response	Comments
	address the research question (objective)?		units and categories facilitated development of properties of and relations between categories.
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	Participants recruited in and around Southampton and 2 GPs from Leicester. Recruitment through primary care trusts and other public locations. Patients and supporters mainly recruited from 10 practices, but 13 from mental health support groups (therefore more informed about management?), carers group, youth service, poster advertising, snowballing and word of mouth.
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Yes	All team members engaged in the analysis, following grounded theory procedures and assumed critical realist perspective. Independent analysis between members, with one researcher reviewing whole dataset for a participant group. Interdisciplinary team involved with analysis. Analytic meetings, audit trails and reflexive journals kept.

D.15 Leydon GM, Rodgers L, Kendrick T. A qualitative study of patient views on discontinuing long-term selective serotonin reuptake inhibitors. *Fam Pract* 2007;24(6):570-5.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	No aims or objectives specified in main body of text but quoted in abstract: "To explore patient experiences of and beliefs about their long-standing SSRI use and understand the barriers and facilitators to discontinuation."
	Do the collected data allow address the research question (objective)?	Yes	"Participants were invited to tell "their story" of SSRI use and issues raised spontaneously by patients." Topic guide ensured all topics of interest were covered. No example questions provided, so not sure how questions directed towards aims as a narrative given by participants.
1. Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Long-term users defined as >12 months (Is this "long-term"?). Deemed "well enough": how to classify? Participants only recruited from one area - therefore difficult to generalise. 17 participants took part (20% response rate). Balance between men and women (more women than men). Age range of 28-64 years. No discussion of ethnic or socioeconomic status. SSRI use ranged from 1-11 years (mean 4 years). Seven reported as single and only episode of depression, six talked about previous distinct episodes, four described as "ongoing" or "long-term" - good to have patient interpretation of depression.
	Is the process for analysing qualitative data relevant to	Yes	Thematic analysis carried out - analytic process is defined and explained, using iterative constant comparison during data collection and analysis. Data sessions carried out between team members.

Category of study designs	Methodological quality criteria	Response	Comments
	address the research question (objective)?		
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	The quotes support the interpretation of findings, and care is given to establish the characteristics of participants that provided illustrative quotes.
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Yes	The authors note that interview data can only provide accounts rather than direct evidence, and this was considered, as well as risk of social acceptability from patients, and how GPs may have been more selective when screening patients.

D.16 Lin P, Campbell DG, Chaney EF, et al. The influence of patient preference on depression treatment in primary care. *Ann Behav Med* 2005;30(2):164-73.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	To explore factors associated with treatment preference matching and the effects of matching on depression treatment outcomes. Assessed participants' treatment modality (AD medication alone, psychotherapy, or both). Examined the relationship among patient preference for treatment modality, receipt of treatment, and improvement in depressive symptomatology.
	Do the collected data allow address the research question (objective)?	Yes	Participants were patients in a large study that compared collaborative care management of depression to treatment as usual in a Veterans Affairs Primary Care Setting.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Participants were recruited using 4 methods - part of two ongoing unrelated studies, a prevention survey conducted in the clinic, and direct referral to the investigation.
	Is the sample representative of the population under study?	Yes	Exclusion criteria limited to have as representative a sample as possible. Sample recruited from Veterans' Association - 95% male, so may not be as representative?
	Are measurements appropriate?	Yes	Demographic characteristics collected. Disease burden assessed using Chronic Disease Score (based on medication data). Attitudes and beliefs measured asking 2 questions and rating on Likert Scale (1-7) asking about whether depression was a personal or medical condition. Functional status measured using SF-36 Depressive severity measured using Hopkins Symptom Checklist (SCL20) Disability measured using Sheehan Disability Scale Changes in health outcomes created by calculating difference scores to reflect changes in functional status, depressive severity, and disability measures over time.

Category of study designs	Methodological quality criteria	Response	Comments
			Treatment preference matching assessed based on those preferring medication and receiving medication alone or in addition to psychotherapy, as with those expressing preference for psychotherapy alone or with medication.
	Is there an acceptable response rate?	Yes	Of 1,125 screened patients, 732 completed the assessment interview. 500 had a diagnosis of depression, dysthymia, or both. 354 recruited to study overall, but 7 indicated no preference, information missing for 12. Therefore 335 in sample

D.17 Lynch J, Kendrick T, Moore M, et al. Patients' beliefs about depression and how they relate to duration of antidepressant treatment: use of a US measure in a UK primary care population. *Primary Care Mental Health* 2006;4(3):207-17 11p.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The primary aim of the study was to quantify beliefs about depression among patients in a UK primary care sample and to determine whether there was a significant relationship between beliefs and duration of antidepressant treatment. Secondary aim was to determine whether UK patients had similar beliefs to US patients with more severe depression.
	Do the collected data allow address the research question (objective)?	Yes	Cross-sectional survey design. Measures used allowed for analysis relevant to answering research question, but unable to look at change over time Participants had between 1 and 13 prescriptions for antidepressants during the study year, on average more than non-responders - could this mean that those more willing to take part in the study were more adherent to medication/stronger beliefs in management?
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Participants recruited from one practice. All participants who had been prescribed antidepressants within the last year were eligible.
	Is the sample representative of the population under study?	No	Patients recruited from one GP practice (9 GPs and ~13k patients). Not sure how representative sample will be to population based on this. Only 33% returned questionnaires. Authors include limitation that results from data may not be possible to extrapolate due to older population

Category of study designs	Methodological quality criteria	Response	Comments
	Are measurements appropriate?	Yes	Beliefs elicited using a questionnaire that had been shown to be reliable and valid in secondary care in the US. Participants sent 4 self-completion questionnaires: 1) Hospital Anxiety and Depression Scale 2) Perception of Depression Questionnaire 3) Bespoke demographic questionnaire 4) Medication Adherence Report Scale
	Is there an acceptable response rate?	No	A total of 628 Questionnaires were mailed, with 208 returned forms (33%). Despite low response rate, overall number of responders was not a barrier to analysis of beliefs data.

D.18 Middleton DJ, Cameron IM, Reid IC. Continuity and monitoring of antidepressant therapy in a primary care setting. *Qual Prim Care* 2011;19(2):109-13.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	To assess continuity of antidepressant therapy in a UK primary care setting at the individual patient level, and whether therapy is conducted with appropriate review.
	Do the collected data allow address the research question (objective)?	Yes	Data collected from the initiation of antidepressant therapy for next 3 years (approximately), or until the end of therapy (period greater than 60 days). Demographic information including IMD, diagnosis, previous receipt of antidepressant prescriptions, significant comorbidities, type, dose, dates, and duration of antidepressant prescription, dates of consultations, and whether consultations included a review of antidepressant therapy.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Practice databases searched for prescriptions of antidepressants (SSRIs/SNRIs) or other antidepressants issued to adults with a new episode of depression within the 12-month period following 1 April 2006. Those who had received a prescription in the six months prior to 1 April 2006 were excluded.
	Is the sample representative of the population under study?	No	Data collected from 2 general practices in Aberdeen City (urban/suburban).
	Are measurements appropriate?	Can't tell	Definition of antidepressant review: how have patient symptoms been logged on computer system - are they true indicators of what happened in the consultation?
	Is there an acceptable response rate?	Yes	Search identified 234 patients initiated on antidepressants within the reference period. 44 excluded after screening

D.19 Nolan P, Badger F. Aspects of the relationship between doctors and depressed patients that enhance satisfaction with primary care. *Journal Of Psychiatric And Mental Health Nursing* 2005;12(2):146-53.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	"The study focused on the perceptions of patients who were treated for depression with medication in primary care. The aims of the study were to explore what factors lead patients to consider that they have a satisfactory relationship with their prescribing clinical, and what kind of information they find reassuring and helpful. Furthermore, it aimed to examine how medication regimens are monitored and what kind of follow-up patients appreciated, and to identify pointers for establishing effective therapeutic relationships between patients and prescribing clinicians"
	Do the collected data allow address the research question (objective)?	Yes	Data collection through semi-structured interviews, questions were based on findings from literature review and aims of the study. It is not clear what these questions were, or whether the interviews were conducted iteratively. Poor methods section.
Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Can't tell	Data based on four general practitioner practices in West Midlands UK - two urban and two rural, and all GPs had to agree to participate. Eligibility criteria were those treated in PC, prescribed ADs, and have no significant diagnosed physical or mental health problems. Why? Not made clear why these individuals were excluded, as other studies look at comorbidities? "The final criterion was an attempt to discount other variables that might detract from the principal focus" - unsure as to what this means, what are the criterion? 60 participants, 37 women and 23 men. Mean age 42 years with range from 24-67 (slightly older population?). No clarification on variation between urban/rural practices. Low generalisability overall. Not clear on duration of AD treatment on participants giving quotes.

Category of study designs	Methodological quality criteria	Response	Comments
	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Can't tell	Interviews were recorded, transcribed and analysed, but no specification on what type of analysis was conducted. Transcripts were analysed independently then authors conferred to discuss and agree themes.
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	Sampled urban v rural to allow for comparison between different types of community to ensure a representative account. First 15 patients to consent were interviewed (convenience sampling) - could this affect results as participants may have more involvement/motivation in their treatment?
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Yes	Participants invited to be interviewed at their home or GP practice (majority 56 out of 60) asked to be interviewed at their own home. Interviews conducted by one author to ensure consistency. One author is Professor of Mental Health Nursing. Authors are aware that non-responders may be uncomfortable talking about mental health issues with strangers during a particularly difficult time of their life.

D.20 Railton S, Mowat H, Bain J. Optimizing the care of patients with depression in primary care: the views of general practitioners. *Health Soc Care Community* 2000;8(2):119-28.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The paper reports the first stage in a planned qualitative study which explores the actual experience of professionals working in primary care with patients with depression.
	Do the collected data allow address the research question (objective)?	Yes	Interview schedule developed around areas of 1) individual skills, 2) organisational factors, 3) follow-up and continuity of care, and 4) prescribing behaviour.
Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Approached practices on East Coast of Scotland (small region). 25 GPs contacted via letter. Practices had an interest in mental health as it was felt they may be more responsive to study 13 male and 2 female GPs interviewed, equal numbers between the three localities.
	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Yes	Data appear to be analysed using thematic analysis (not stated). Themes, subthemes and memos kept.
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	Anecdotal information given by some of the GPs interviewed suggest they were more willing to take part due to their interest in mental health.

Category of study designs	Methodological quality criteria	Response	Comments
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Can't tell	This is not mentioned anywhere in the paper.

D.21 Richards JC, Ryan P, McCabe MP, et al. Barriers to the effective management of depression in general practice. *Aust N Z J Psychiatry* 2004;38(10):795-803

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The study involved a direct survey of urban and rural GPs. The study investigates the impact of prior mental health training on GPs' attitudes to depression, on their confidence in relation to managing depression and on the barriers they identify in the effective management of this condition. It investigates the impact of these variables on what GPs say about their current clinical practice in relation to the management of depression.
	Do the collected data allow address the research question (objective)?	Yes	Appropriate analysis conducted on data (MANOVA and multiple regression analyses) to assess relationships between factors.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Recruiting from Divisions of General Practice in Australia. 52 Divisions responded and were asked to send 10 rural and 15 urban questionnaire packages to obtain a representative sample and to balance for age, gender, and interest in mental health issues.
	Is the sample representative of the population under study?	Yes	Participant characteristics appear balanced: 53% female, with 71% aged between 35 and 54 years. 46% from rural divisions. Majority were members of GP societies and some had more specialist training in mental health. Generalisability of sample is limited as uncertainty of representativeness of sample
	Are measurements appropriate?	Yes	Measures available by request. Measures were constructed through consultation with reference group of GPs assembled by ADGP. Feedback based on clinical experience on the relevance of the questions asked. Section 1: Demographic Data Section 2: Clinical experience with depressed patients over previous 6 months and provision of specific treatments

Category of study designs	Methodological quality criteria	Response	Comments
			<p>Section 3: Perceived barriers that limit GPs' capacity to care for patients with depression</p> <p>Section 4: Self-efficacy in relation to the assessment and treatment of depression</p> <p>Section 5: GPs' attitude towards depression using adapted Depression Attitude Questionnaire and Health Attitudes About Depression Scale</p> <p>It is important to note that the survey questions were not validated</p>
	Is there an acceptable response rate?	Yes	420 GPs (69% response rate) seems acceptable. There was an incentive for practices and individuals to complete the questionnaires.

D.22 Rogers A, May C, Oliver D. Experiencing depression, experiencing the depressed: The separate worlds of patients and doctors. *Journal of Mental Health* 2009;10(3):317-33.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The objective of the paper was to explore lay experiences of depressed people in relation to the negotiation of contact with primary care and draw into this the experiences of clinicians who treat them. Undertook a qualitative study exploring patients' and GPs views about the management of depression in primary care.
	Do the collected data allow address the research question (objective)?	Yes	In-depth interviews were considered the most appropriate means of exploring processes and interaction of how patient used and were responded to in primary care. Semi-structured interviews with patients - explored background to and ways in which people considered to have depression, experienced and conceptualised depression, accessed services, the nature and views about the consultation and treatment and care within primary care and referral to secondary care services.
Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Interviews with 27 patients and 10 GPs from eight practices in Greater Manchester, representing inner city and suburban areas. Patient sample - asked GPs to refer names of people who had consulted with them for moderate depression over 1-month period (could this mean that GPs selectively choose patients who have positive experiences/relationships with GP?) Purposively sampled according to age, gender, and type of practice.
	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Yes	Analysis using NUDIST software (facilitating cross-referencing of data). Codes and themes generated from first few interviews. Text coded into 12 major themes, each with several sub-themes. Data were read horizontally and vertically. The aim of the analysis was to identify and elaborate the processes related to access and contact with primary care. 10 GPs interviewed about management of depression in

Category of study designs	Methodological quality criteria	Response	Comments
			relation to particular patients and in the context of General Practice work and their personal experience more generally. Further transparency on analytic methods would be preferable - not sure how themes were generated?
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	Interviews with 27 patients and 10 GPs from eight practices in Greater Manchester, representing inner city and suburban areas suggests some idea of location and sampling from different geographical locations. Authors state that in-depth interviews were the most appropriate means of exploring how patients accessed and use primary care services. Comparisons between findings of present study and existing literature are discussed
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Can't tell	Not stated anywhere in the article.

D.23 Schwenk TL, Evans DL, Laden SK, et al. Treatment outcome and physician-patient communication in primary care patients with chronic, recurrent depression.

Am J Psychiatry 2004;161(10):1892-901.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The study (national survey) was designed to determine the effect of chronic, recurrent depression on patients' lives, and to assess patients' experience and satisfaction with primary care treatment, particularly the likelihood of being treated to wellness and the barriers to achieving full remission.
	Do the collected data allow address the research question (objective)?	Yes	Data collected on demographics and current and lifetime health status, treatment of depression, and health insurance status. Data collected between May and June 2000.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Two-stage national probability sample - telephone numbers for potential survey participants from an ongoing monthly health survey mailed to households in the US. Telephone survey conducted to identify households with at least 1 adult reporting a diagnosis of clinical depression and receipt of antidepressants from a primary care clinician. Relying on self-report - accuracy?
	Is the sample representative of the population under study?	Yes	7,785 households reached, with 5,871 participants completing the screen. 2918 identified as having depression. After exclusions, 1001 participants completed structured interview. Exclusion criteria listed as those with SMI, not on AD treatment, or treated by psychiatrist. Mean age = 51.5 years, predominantly white female, married. Age of first depressive symptoms was 33.8 years with diagnosis 4.2 years later.
	Are measurements appropriate?	Yes	Standardised clinical assessments of patients' experiences, satisfactions with care, unresolved symptoms, and experience with side effects. Assessment developed in

Category of study designs	Methodological quality criteria	Response	Comments
			consultation with depression experts, but not otherwise pilot-tested or validated. No indication of what the measures were.
	Is there an acceptable response rate?	Yes	Out of the total number of houses contacted, 75.4% (n= 5,871) completed the screening. Of the 1,038 participants deemed eligible, 1,001 (96.4 %) completed the telephone interview.

D.24 Sinclair JE, Aucott LS, Lawton K, et al. The monitoring of longer term prescriptions of antidepressants: observational study in a primary care setting. *Fam Pract* 2014;31(4):419-26.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The objectives were to measure the frequency of treatment monitoring for patients who had been on antidepressants longer-term, and to determine whether participant characteristics were associated with the frequency of monitoring.
	Do the collected data allow address the research question (objective)?	Yes	Data collected through patients' electronic and paper records. Electronic records stored using VISION database system. Associations between patient characteristics and frequency of antidepressant review consultations were only assessed for years 1-5 of therapy as the number of patients completing subsequent years of therapy was felt to be too low. Sex and presence of comorbidity were entered into analysis as females and those with multiple co-morbidities visit GP more often and therefore antidepressant therapy may be monitored more regularly.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Patients needed to have been on antidepressant prescriptions continuously for at least 2 years. Participants were identified by database search for people over 16 years old who had been issued antidepressant prescriptions in the 3 months commencing 18 October 2009 and 18 October 2011, to identify those on longer-term prescriptions. A random sample was obtained by assigning individual patient numbers and picking numbers from a concealed container (random sampling was chosen due to predicted high number of patients on antidepressants). At least 50 patients from each of the 4 GP practices were selected for the final study population.
	Is the sample representative of the population under study?	Yes	Patient data collected from 4 GP practices in urban areas of Aberdeen, Scotland with a range of deprivation scores (need to consider generalisability?) Patients identified in the search were excluded if they had been for a period of >60 days without collecting an antidepressant prescription.

Category of study designs	Methodological quality criteria	Response	Comments
			The authors do state that it is not possible to identify the entire study population, so not possible to tell whether sample is fully representative.
	Are measurements appropriate?	Yes	Data taken from patient medical records. Data analysed and presented using means and standard deviations, and categorial data presented as frequencies and percentages.
	Is there an acceptable response rate?	Yes	A total of 1331 patients were identified between the 4 practices. 206 participants included in total sample for analysis.

D.25 Suija K, Aluoja A, Kalda R, et al. Factors associated with recurrent depression: a prospective study in family practice. *Fam Pract* 2011;28(1):22-8.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The aim of the study was to determine the risk factors for recurrent depression among primary care patients (recurrent depression defined as a new episode of depression following a period of recovery of at least 8 weeks).
	Do the collected data allow address the research question (objective)?	Yes	Part of PredictD study, carried out between 2003-2005 in 23 family practices across Estonia. Patients aged 18-75 years recruited and followed up at 6 and 12 months. Need to consider generalisability of findings as sample size was small.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Sampling methods presented in King et al. (2006) paper (main PREDICT Study). States that patients were recruited opportunistically by GPs, so unclear whether there may be some selection bias? Of 1094 patients recruited, 142 (13%) were depressed at baseline. At 6 months, 12 were uncontactable, 3 were depressed, and 127 were not depressed. At 12 months, 4 were uncontactable, with 34 depressed (showing recurrent depression), and 89 not depressed (72%).
	Is the sample representative of the population under study?	Yes	Mean age was 39 years (SD 13), with 85% female. All patients had MDD at baseline, with 89 in remission at 12 months, and 34 experiencing recurrent MDD. Generalisability of findings need to be questioned (and stated by authors) as number of participants with recurrent depression is small as well as number of participants between demographic categories.

Category of study designs	Methodological quality criteria	Response	Comments
	Are measurements appropriate?	Yes	Depression diagnosed with CIDI v.2.1 (high reliability and validity). Participants completed standardised questionnaire for assessment of risk factors for depression (48 risk factors in total). Questionnaire included items from other validated questionnaires (e.g. SF12, Childhood Trauma interview, Patient Health Questionnaire). Doctors were also asked for patient's disability, prescribed antidepressants, sickness absence, visits to family doctor, and co-morbid diagnoses.
	Is there an acceptable response rate?	Yes	Good response rate and good follow-up.

D.26 Sullivan MD, Katon WJ, Russo JE, et al. Patient beliefs predict response to paroxetine among primary care patients with dysthymia and minor depression. *The Journal of the American Board of Family Practice* 2003;16(1):22-31.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	To examine the role of patient beliefs in the context of other relevant patient characteristics to determine whether they help to predict response to antidepressants or placebo. The authors hypothesised that a greater endorsement of the biological model for depression
	Do the collected data allow address the research question (objective)?	Yes	It is worth noting that placebo group of RCT were included as a comparison group, to determine whether predictive beliefs were specific to active treatment.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Primary care patients aged 18 or over recruited from primary care practices. Participants needed to have three of the four DSM-IV symptoms of depression (one of which needed to include anhedonia, and to have a HAM-D score of 10 or more. Patients with dysthymia required to have symptoms of at least 2 years.
	Is the sample representative of the population under study?	Yes	
	Are measurements appropriate?	Yes	Patient beliefs were assessed before randomisation with a 20-item Patient Attitudes and Beliefs Scale (PAB), designed to assess patients' beliefs about the cause of their depression along three dimensions (biological, cognitive, and external). Patient beliefs about general health assessed using Medical Outcomes Study Short Form 36 (SF36). HAM-D administered at baseline, 6 weeks, and 11 weeks

Category of study designs	Methodological quality criteria	Response	Comments
	Is there an acceptable response rate?	Yes	333 patients in total (152 in Paroxetine group, 181 in placebo). Significantly more patients in the Paroxetine group dropped out before completing four sessions compared with the placebo group.

D.27 van Weel-Baumgarten EM, van den Bosch WJ, Hekster YA, et al. Treatment of depression related to recurrence: 10-year follow-up in general practice. *J Clin Pharm Ther* 2000;25(1):61-6.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	To study outcomes related to long-term treatment of depression and differences in treatments for first episodes of depression with and without recurrences.
	Do the collected data allow address the research question (objective)?	Yes	Data were collected from the Continuous Morbidity registry of the Department of General Practice and Social Medicine of the University of Nijmegen, a network of four practices with 12,000 patients. Age, gender, and social class are recorded in the database, along with diagnoses of all new episodes of illness according to the International Classification of Health Problems in Primary Care (ICHPPC-2). Patients coded with a new episode of depression. Patient records accessed. Antidepressant drugs registered according to Anatomical Therapeutical Classification methodology (as recommended by WHO). Longitudinal data (spans 10 years)
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	The diagnosis of depression of patients in the study could not be assessed retrospectively (as stated by authors). The charts of 222 patients coded with a first depression before 1985 who could be followed up over 10 years used for analysis.
	Is the sample representative of the population under study?	Yes	In 134 (60%) patients, only one episode of depression had occurred in the 10 years of follow-up, whereas only 12% had more than 3 episodes. 61% of sample female, 50% under 45 years of age, 63% low social class.

Category of study designs	Methodological quality criteria	Response	Comments
	Are measurements appropriate?	Yes	The authors report that it is unlikely for bias to occur in information recording or retrieval, but findings should be interpreted with caution. Correlation cannot infer causation.
	Is there an acceptable response rate?	Yes	441 medication episodes with antidepressants had been registered on patient data. Notes allowed assessment of length of treatment in 80% and dosage in 54% of medication-episodes.

D.28 Wilson I, Duszynski K, Mant A. A 5-year follow-up of general practice patients experiencing depression. *Fam Pract* 2003;20(6):685-9.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	The Medic-GP database was used for investigating the prevalence, treatments, and outcomes of depression in Australian General Practice. The distribution of treatment and changes to that treatment were analysed. Length of treatment was examined, and treatment methods were compared for persistence.
	Do the collected data allow address the research question (objective)?	Yes	Data encompass a five-year time frame, from 1994 - 1999. The authors claim that the database is ideal for examining longitudinal history of disease. The records enabled analysis of: treatments used, changes to treatment regime over time, co-morbidities associated with depression, and outcomes of depression. Data were extracted in such a way that time-lines for individual patients could be developed.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	No	Participants have been identified from the Medic-GP database, a collection of 55,187 patients' 915,773 clinical records. Data taken from 150 GPs in 9 GP Practices in 4 states in Australia - not sure how these 9 practices were identified? Limitation of small number of practices identified - limited generalisability. Randomisation process of sampling participants not clear.
	Is the sample representative of the population under study?	No	The authors claim that the patients in the database are representative of the patients attending all GP practices in Australia in terms of age and gender. Database search to identify records of "depression" or similar words. Excluded those who did not receive a diagnosis of depression or were discussion depression of others (i.e. relatives). Included all types of depression, including depression, dysthymia and adjustment disorder.

Category of study designs	Methodological quality criteria	Response	Comments
	Are measurements appropriate?	Yes	<p>The following data were extracted:</p> <ol style="list-style-type: none"> 1) Demographic data (DOB & Gender) 2) Criteria used to make diagnosis of depression 3) Antidepressant prescription at the time of diagnosis or at subsequent consultations 4) Changes to antidepressant prescription 5) Psychiatric and physical comorbidities 6) Referrals to other GPs for counselling, psychiatrists, psychologists, other therapists, hospital, and referral NOS. 7) Outcomes - resolution, recurrence, suicide attempt, suicide <p>Limitation is that diagnoses of depression did not meet DSM criteria and relied on GP self-report. Unsure how timelines of patients were developed or lack of clarity of how data were analysed.</p>
	Is there an acceptable response rate?	Yes	<p>The response rate is not pertinent for case reports.</p> <p>5889 patients who met the criteria were identified. 600 patients were randomly selected. Randomisation process not clear, i.e. no mention of computer-assisted randomisation etc.</p> <p>Of the 600 patients, 382 (63.7%) deemed to have depression diagnosis, so analysis performed on 382. 219 were newly diagnosed (57.3%), the rest were determined to have diagnosis prior to inception of database.</p>

D.29 Verbeek-Heida PM, Mathot EF. Better safe than sorry--why patients prefer to stop using selective serotonin reuptake inhibitor (SSRI) antidepressants but are afraid to do so: results of a qualitative study. *Chronic Illn* 2006;2(2):133-42.

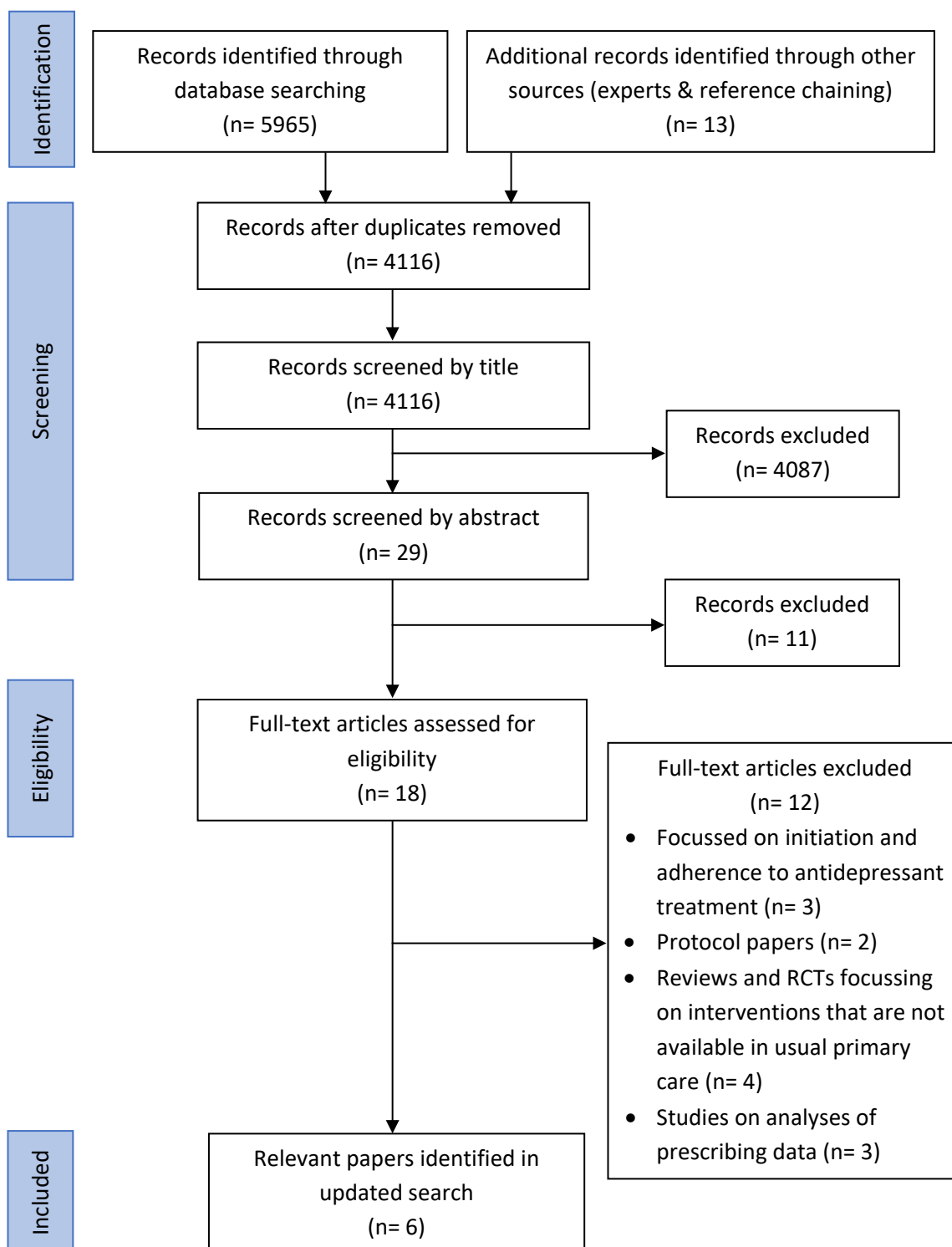
Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	Objective is stated: "To provide insights into these processes of decision making from the patients' point of view, in the hope that this might be useful for doctors when they talk with patients about continuing or stopping SSRIs."
	Do the collected data allow address the research question (objective)?	Yes	Participants asked to give views about what it meant to take SSRIs in daily life. Small sample size (16) but this is argued that this is to allow for in-depth analysis. No mention of data saturation. Authors acknowledge that data may not be representative but give insights into social and symbolic meanings related to generated themes. The framework suggests that users attach both social and symbolic meanings to medicines, and these are constructed by interactions with others.
Qualitative	Are the sources of qualitative data relevant to address the research question (objective)?	Yes	Data collected from a wide and diverse range of SSRI users. Sampling happened by recruiting from a community pharmacy, a general practice, and snowballing - generalisability? Is it really a wide and diverse range if from one of each setting? Recruited people who collected repeat prescriptions from the pharmacy for >6m - is this generalisable therefore to LT users? Lack of males in pharmacy recruitment so sampled for men only from GP and snowballing method - again need to question generalisability. All participants were "non-medical", and the sample can be "broadly divided" into those who had experience of one or more attempts to stop SSRI use and those who had no such experience.

Category of study designs	Methodological quality criteria	Response	Comments
			Nine participants had tried to stop in the past, but none had stopped successfully and had restarted treatment. It does not mean that they would not try to stop again.
	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Yes	The use of grounded theory is suitable to develop a framework as to how patients make decisions about antidepressant use for depression. Constant comparison and discussion among the research team was carried out.
	Is appropriate consideration given to how findings relate to the context in which the data were collected?	Yes	Quotes have been translated from Dutch, and context may be lost in translation. Details of where data were collected are mentioned (all but one in patients' own home).
	Is appropriate consideration given to how findings relate to researchers' influence through their interactions with participants?	Yes	The authors state that informants could set the agenda in terms of what was important to them re: SSRI use. Topic guide was used to cover all aspects related to pre-diagnosis all the way up to current use. Interviews were conducted by first author and two "advanced" (?) graduate students - does not specify in which subject. Research carried out by Centre of Sociology and Anthropology - framework has social and symbolic constructs of SSRI use.

D.30 Wouters H, Van Dijk L, Van Geffen EC, et al. Primary-care patients' trade-off preferences with regard to antidepressants. *Psychol Med* 2014;44(11):2301-8.

Category of study designs	Methodological quality criteria	Response	Comments
Screening questions (for all types)	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes	To examine patients' trade-offs between efficacy, side-effects, and other drawbacks of antidepressants and whether these trade-offs predict non-adherence.
	Do the collected data allow address the research question (objective)?	Yes	Participants completed online questionnaires, as well as interviews conducted with older and non-adherent patients, to reduce selection bias by only including patients with internet access.
Quantitative descriptive	Is the sampling strategy relevant to address the quantitative research question?	Yes	Participants recruited randomly from community pharmacies. Patients eligible to take part if they had been treated in the last year with tricyclics or SSRIs.
	Is the sample representative of the population under study?	Yes	Patients excluded in cases of psychosocial and socio-economic problems on the discretion of the pharmacist - not clear why. 66% female, mean age 51.1, 176 married, and 25% with higher levels of education.
	Are measurements appropriate?	Yes	As well as patient self-report, refill data we collected from automated dispensing records of the pharmacy. Patient preferences were elicited by Adaptive Conjoint Analysis task, with 15 pairs of hypothetical trade-offs and treatment options to select. Depression severity not assessed using a validated scale
	Is there an acceptable response rate?	Yes	225 patients completed the questionnaire (208 completing online, 17 face-to-face).

Appendix EPRISMA diagram of updated literature search



Appendix F Data extraction table for papers identified in updated literature search


Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS.	Do findings fit in with synthesising argument?
Eveleigh, Speckens, van Weel, Oude Voshaar, & Lucassen (2019) Patients' attitudes to discontinuing not-indicated long-term antidepressant use: barriers and facilitators	Netherlands	Qualitative Semi-structured interviews 16 patients	To explore participants' barriers and facilitators to discontinue antidepressant use	Key barriers were that antidepressants seen as a necessity to function, as well as a fear of relapse/recurrence, disturbing the equilibrium, and the effect on significant others. Facilitators to discontinue were access to information, opinion from professionals, fear of addiction, stigma, shame, and patient/practitioner relationship.	Participants recruited from intervention arm of RCT where advice was given on how to discontinue antidepressants. Sample was of participants with no clinical indication to continue treatment.	Yes
Gibson, Cartwright & Read (2016) 'In my life antidepressants have been...': a qualitative analysis of users' diverse experiences with antidepressants	New Zealand	Qualitative Content analysis of survey responses 1747 patients	To explore the responses of a large sample of antidepressant users to an open-ended survey question: 'In my life antidepressants have been...'. Analysis aimed to explore whether there are	54% of participants gave a positive account of antidepressants, whereas 16% reported negative experiences. Positive accounts: Antidepressant treatment reported as necessary for ongoing management, with depression seen as a chemical imbalance.	69% participants were still taking antidepressants at the time of the study, with 51.7% taking them for more than 3 years. Need to consider the generalisability of findings to patients on long-term antidepressant use. This is discussed by the authors.	Yes

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS.	Do findings fit in with synthesising argument?
			diverse experiences with antidepressants	Antidepressants were giving a sense of balance to participants' lives. Negative accounts: Negative side effects, loss of a sense of self and control over their lives. Mixed accounts: weighing up risks and benefits of antidepressants led to uncertainty about the necessity of antidepressants.		
Huijbregts, Hoogendoorn, Slottje, van Balkom, & Batelaan (2017) Long-term and Short-Term Antidepressant Use in General Practice: Data from a Large Cohort in the Netherlands	Netherlands	Quantitative Retrospective cohort study 20,612 Patients	To gain insight into long-term antidepressant use in The Netherlands, as well as examining patient characteristics and types of antidepressant are associated with long-term use, and to assess whether long-term use has increased over past 20 years.	There is an increase in long-term antidepressant use, from 30.3% during 1995-2005 to 43.7% between 2005-2015. Patient factors that are associated with long-term use are being older, female, and having a registered diagnosis of depression. Socioeconomic status was not associated with long-term antidepressant use. Use of an SSRI/SNRI was associated with long-term use, which the authors suggest may be due to difficulties with discontinuing these antidepressants (withdrawal effects which may lead to fear of relapse).	The cohort includes patients prescribed antidepressants for long-term conditions as well as anxiety and depression. Authors suggest no association between long-term use and socioeconomic status may be explained by indirect measurement of socioeconomic status (using postal codes).	Yes – except for finding that there is no association between long-term use and socioeconomic status which is different to majority of other studies included in the synthesis.


Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS.	Do findings fit in with synthesising argument?
Johnson, Williams, MacGillivray, Dougall, & Maxwell (2017) 'Doing the right thing': Factors influencing GP prescribing of antidepressants and prescribed doses	Scotland	Qualitative Semi-structured interview study 28 GPs	To explore factors influencing GPs' use of antidepressants and their doses to treat depression	Depression treatment involves two overarching concepts of 'doing the right thing' and achieving the 'right care fit' for individuals. Factors that increased long-term antidepressant use were infrequent review, ongoing presence of depressive symptoms, view that antidepressants are safe, effective, and low-risk, and perceived pressure to maintain prescribing due to fear of relapse/recurrence.	Purposive sampling based on prescribing data based on high/medium/low practice prescribing rates. Research aims focussed on initiation, maintenance, and long-term treatment; however analysis explores differences in prescribing at each timepoint.	Yes
Maund, Dewar-Haggart, Williams, Bowers, Geraghty, Leydon, May, Dawson, & Kendrick (2019) Barriers and facilitators to discontinuing antidepressant use: A systematic review and thematic synthesis	England	Qualitative Systematic Review and Thematic Synthesis 22 papers from 22 studies	To explore patient and health professional views and experiences of antidepressant treatment, with a particular focus on barriers and facilitators to discontinuing use.	Nine key themes identified that had both barriers and facilitators to discontinuation: psychological and physical capabilities, perceptions of antidepressants, fears, intrinsic motivators and goals, the role of the GP, perceived causes of depression, information to support decision making, the role of significant others, and the support of other health professionals.	Thematic synthesis was only conducted for patient perspectives as there was not enough data to elicit health professional perspectives. Papers prior to 2000 included in synthesis.	Yes

Author (Year) & Title	Country	Methodology & Sample	Aims	Key findings relevant to CIS	Critical considerations for interpretation of CIS.	Do findings fit in with synthesising argument?
Wentink, Huijbers, Lucassen, van der Gouw, Kramers, Spijker, & Speckens (2019) Enhancing shared decision making about discontinuation of antidepressant medication: a concept mapping study in primary and secondary mental health care	Netherlands	Mixed methods concept mapping study 37 Patients & 27 Health Professionals (10 GPs)	To identify factors that enable the shared decision-making process about discontinuation of antidepressants between long-term users and their health professionals.	Fifty separate topics were identified by both patients and health professionals. Hierarchical cluster analysis found six clusters of topics that should be discussed: process of discontinuation, expectations, professional guidance, current use, environment, and side effects. There was a difference between groups around the importance of professional guidance. The authors suggest some differences between patients and health professionals regarding topics that need to be discussed around discontinuing antidepressants and who will initiate conversation.	Sample includes both past and current users of antidepressants, and health professionals from secondary care. Sample may not necessarily have been representative as it may have included more people interested in the topic of discontinuation.	Yes

Appendix G Patient Attitudes Towards Deprescribing Questionnaire



Government of South Australia
Central Northern Adelaide
Health Service



University of
South Australia

Name: _____ **Date:** _____

Please indicate whether or not you agree with the following statements by ticking the appropriate box.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
1. I feel that I am taking a large number of medications					
2. I am comfortable with the number of medications that I am taking					
3. I believe that all my medications are necessary					
4. If my doctor said it was possible I would be willing to stop one or more of my regular medications					
5. I would like to reduce the number of medications that I am taking					
6. I feel that I may be taking one or more medications that I no longer need					
7. I would accept taking more medications for my health conditions					
8. I have a good understanding of the reasons I was prescribed each of my medications					
9. Having to pay for less medications would play a role in my willingness to stop one or more of my medications					
10. I believe one or more of my medications is giving me side effects					

11. Have you ever tried to stop a regular medication (with your doctor's knowledge)

☐ No (go to question 12)
 ☐ Yes - continue to next part

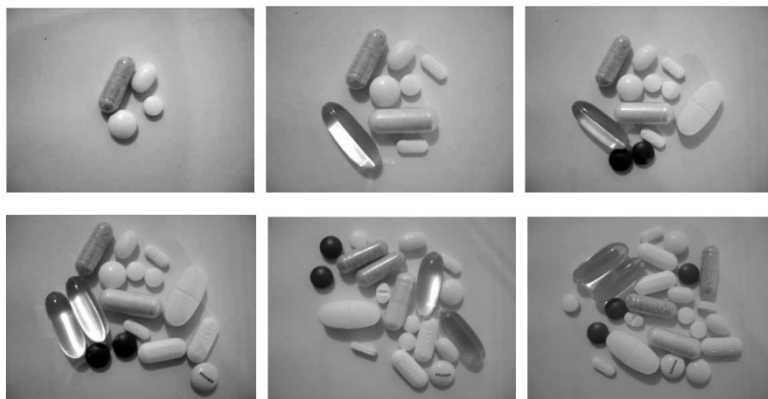
If Yes I was able to remain off the medication ☐
 I had to restart the medication ☐
 I had to be started on a different medication ☐

12. How many different tablets/capsules per day would you consider to be **a lot?** – circle one of the below numbers

5-10, 10-15, 15-20, 20-25, >25

1

13. What is the **MAXIMUM** number of tablets/capsules that you would be comfortable taking per day- *circle one of the below pictures*



14. How comfortable would you be if a pharmacist was involved in stopping one or more of your regular medications and provided the follow-up (informing your doctor of the progress)?

Uncomfortable ☐

Unsure ☐

Comfortable ☐

15. If one of your regular medications was stopped, what follow-up would you like?

☐ Face to face appointment

☐ Phone call(s)

☐ Written information via post

☐ Written information via email

☐ I wouldn't need planned follow-up. I would be happy contacting a health professional if I had any problems

Thank you for completing the questionnaire

Appendix H APPLAUD Questionnaire: Version 1

Medicine

UNIVERSITY OF
Southampton

Study Name: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire

Study ID: 23956

Participant ID: _____ **Date:** ____/____/____

Beliefs About Long-term Antidepressant Use Questionnaire

This questionnaire asks you about your antidepressant use. Please read each statement carefully, and circle the number of the response that you feel applies most to you.

1. I expect to stop taking antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

2. I want to stop taking antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

3. I intend to stop taking antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

4. I am confident that I could stop taking antidepressants if I wanted to						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

5. People who are close to me want me to stop taking antidepressants						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

6. My doctor(s) think that I should stop taking antidepressants						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

7. The decision for me to stop taking antidepressants is beyond my control						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

8. For me, stopping antidepressants is:								
Reassuring	1	2	3	4	5	6	7	Worrying
Desirable	1	2	3	4	5	6	7	Undesirable
Difficult	1	2	3	4	5	6	7	Easy
Unnecessary	1	2	3	4	5	6	7	Necessary
Useful	1	2	3	4	5	6	7	Worthless
Beneficial	1	2	3	4	5	6	7	Harmful
Good	1	2	3	4	5	6	7	Bad
Unpleasant	1	2	3	4	5	6	7	Pleasant
Inconvenient	1	2	3	4	5	6	7	Convenient
Natural	1	2	3	4	5	6	7	Unnatural
Safe	1	2	3	4	5	6	7	Dangerous

9. Whether I stop taking antidepressants or not is entirely up to me						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

10. Most people who are important to me think that I:								
should	1	2	3	4	5	6	7	should not
stop taking antidepressants				stop taking antidepressants				

11. For me to stop taking antidepressants is:						
Easy						Difficult
1	2	3	4	5	6	7

12. I feel under social pressure to stop taking antidepressants						
Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

Please read through each of the following statements carefully, and circle your response to how much you agree or disagree with the statements.

13. My health, at present, depends on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

14. Having to take antidepressants worries me				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

15. My life would be impossible without my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

16. Without my antidepressants I would be very ill				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

17. I sometimes worry about long-term effects of my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

18. My antidepressants are a mystery to me				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

19. My health in the future will depend on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

20. My antidepressants disrupt my life				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

21. I sometimes worry about becoming too dependent on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

22. My antidepressants protect me from becoming worse				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

Please read through the following statements carefully, and indicate whether you agree with them by ticking the appropriate box.

	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
23. I am comfortable taking antidepressants					
24. I believe that my antidepressants are necessary					
25. If my doctor said it was possible I would be willing to stop taking my antidepressants					
26. I would like to stop taking my antidepressants					
27. I feel I may be taking antidepressants that I no longer need					
28. I would accept managing my depression in other ways					
29. I have a good understanding of the reasons I was prescribed antidepressants					
30. Not having to pay for prescriptions would play a role in my willingness to stop taking antidepressants					
31. I believe my antidepressants are giving me side effects					

32. Have you ever tried to stop taking antidepressants with your doctor's knowledge?

Yes

☐

No

☐

33. Have you ever tried to stop taking antidepressants without your doctor's knowledge?

Yes

☐

No

☐

34. How comfortable would you be if the following health professionals were involved in stopping your antidepressants and provided the follow up? *(Please tick your answer)*

	Uncomfortable	Unsure	Comfortable
Doctor			
Nurse Practitioner			
Pharmacist			

35. If your antidepressants were stopped, what follow-up would you like? *(Please tick all that apply)*

<input type="checkbox"/>	Face-to-face appointment with my doctor
<input type="checkbox"/>	Face-to-face appointment with a practice nurse
<input type="checkbox"/>	Face-to-face appointments with a pharmacist
<input type="checkbox"/>	Phone call(s) from my doctor
<input type="checkbox"/>	Phone call(s) from a practice nurse
<input type="checkbox"/>	Phone call(s) from a pharmacist
<input type="checkbox"/>	Written information via post
<input type="checkbox"/>	Written information via email
<input type="checkbox"/>	I wouldn't need follow-up. I would be happy contacting a health professional if I had any problems

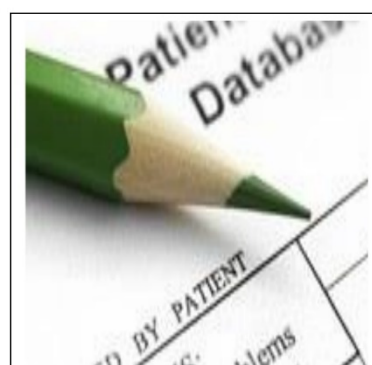
THANK YOU FOR COMPLETING THE QUESTIONNAIRE

Appendix I Cognitive interview study documents

I.1 Poster

Depression Questionnaire Feedback Study

- I am looking for participants to give feedback on a questionnaire that asks people about their beliefs about their long-term antidepressant use.
- You will receive a £10 shopping voucher or course credits for your time.



Contact:

Name: Rachel Ryves

Email: rr4g08@soton.ac.uk

Telephone: 02380241067

What is involved:

- One 60 minute interview with the researcher
- Location can be agreed between participant and researcher
- Give verbal feedback while completing a questionnaire

Faculty of Medicine Ethics Committee reference: 23956 (Date: 01/11/2016)

This PhD project is sponsored by the University of Southampton and funded by the NIHR School for Primary Care Research

You must:

- Be 18 years old or over
- Have been diagnosed with depression by a health professional
- Have been on antidepressants for 9 months or longer

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NHS
National Institute for
Health Research

School for
Primary Care
Research

Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067	Rachel Ryves Rr4g08@soton.ac.uk 02380241067
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I.2 Participant information leaflet

Medicine

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Participant Information Sheet [v.4]

Study Title: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire

Researcher: Rachel Ryves

ERGO number: 23956

Please read this information carefully before deciding whether to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

My name is Rachel Ryves and this study forms part of my PhD in Primary Care, funded by the National Institute for Health Research (NIHR) School for Primary Care Research (SPCR). The wider aim of my research is to look at how long-term depression is managed in primary care. The aim of this study is to get peoples' views and opinions on a proposed questionnaire to measure beliefs and behaviours about long-term depression, and how people manage it. This feedback will be used to change and improve the questionnaire before it is used in the larger study. This study is funded by the NIHR SPCR, and is sponsored by the University of Southampton.

Why have I been chosen?

You have contacted the researcher to say you are interested in taking part in the study. You have been chosen as you have told us that you have been suffering with depression and on antidepressant treatment for 9 months or longer, and will be able to give useful feedback and information on a questionnaire we are developing.

What will happen to me if I take part?

If you decide to take part you will be asked to complete a questionnaire about yourself and your depression.

You will then be asked to complete a questionnaire on your beliefs about your antidepressant use. While you are completing it the researcher will ask you to talk through your thought processes as you complete each question. You will be asked to say out loud what you think about the questions. We would like to know what you understand by the questions, whether you like them or not, and how you feel questions and the questionnaire in general could be improved. We are also interested in the ways you arrive at answers you give, and any problems you encounter when completing the questionnaire. There are no right or wrong answers, and any detailed help you can give us is of interest, even if it seems irrelevant or trivial. It is important to note that we are not taking an overall score of your responses to the questionnaire, as it is still being developed.

The interview should take about 60 minutes and will be audio recorded (with your consent) for the researcher to be able to refer back to your feedback when developing the questionnaire. You will be given a £10 voucher or course credits for your time.

The information that you give during the interview, along with information from other participants will be used to change and improve the questionnaire before it is used in the main study of the PhD.

Are there any benefits in my taking part?

It is unlikely that you will get any personal benefit by taking part in this study. However, your involvement in the study will help to make sure that the questionnaire is suitable for use in the main study.

What are the possible disadvantages and risks of taking part?

There should be no disadvantages in taking part in the study. The purpose of the study is to get your opinions and views on the wording and how suitable questions on the questionnaire are, rather than your scores on the questionnaire items. However, some questions in the questionnaire may be sensitive. You are not under any obligation to answer any of these questions and you can stop the interview at any time.

If you are concerned about your depression or treatment, it is advisable to speak to your doctor as soon as possible.

Will my participation be confidential?

Yes. If you agree to take part in the study, you will be assigned a unique Participant ID number that cannot identify you in any way.

Personal details will only be available to the researcher. Any personal details that you give will be stored away from any other information in a password-protected computer file, and paper documents will be stored in a locked filing cabinet. These details will not be removed from the study office and will be stored in line with the University of Southampton's policy procedures. No information such as names or addresses will ever be shared with any third party.

What will happen to the results of the research study?

Information from the study will be used to change the questionnaire where needed for the main study. In the main study, GP surgeries will be asked to invite patients that have been receiving antidepressants for 2 years or more to complete the questionnaire. Participants for the main study will only be recruited from specific GP surgeries, therefore it is unlikely that you will be able to take part in the main study. The results from this study will be written up as part of the PhD thesis. This will not include any information that makes it possible for you to be identified. At the end of the study we can send you a report of the results for your information.

What happens if I change my mind?

You can decide to stop taking part in the study at any time, without giving any reason why.

What happens if something goes wrong?

If you are concerned about the conduct of the study, then please contact Rachel Ryves' Lead PhD Supervisor, Professor Tony Kendrick (a.r.kendrick@soton.ac.uk; 02380241083). You may also contact the Research Integrity & Governance Team at the University of Southampton (email rgoinfo@soton.ac.uk or telephone 02380595058).


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Where can I get more information?

If you would like further information about the study you can get in touch with Rachel Ryves by calling 02380241067, 07379523467 (study mobile phone), or emailing her at applaud@soton.ac.uk.

I.3 Screening questionnaire

<div style="border-left: 1px solid black; padding-left: 5px; margin-bottom: 10px;">Medicine</div>	
<p>Study Name: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire</p> <p>Study ID: 23956</p> <p>Referral ID: _____</p> <p>Before we go any further I just need to confirm a few things:</p> <p>Are you over 18? Yes/no</p> <p style="margin-left: 40px;"><i>If no, exclude</i></p> <p>How long (years & months) have you suffered from depression?</p> <p style="margin-left: 40px;"><i>If less than 24 months, exclude</i></p> <div style="margin-left: 300px;"> <input style="width: 40px; height: 25px; border: 1px solid black;" type="text"/> years <input style="width: 40px; height: 25px; border: 1px solid black;" type="text"/> months </div> <p>How long have you been taking antidepressants?</p> <div style="margin-left: 300px;"> <input style="width: 40px; height: 25px; border: 1px solid black;" type="text"/> Years <input style="width: 40px; height: 25px; border: 1px solid black;" type="text"/> months </div> <p style="margin-left: 40px;"><i>If less than 9 months, exclude</i></p> <p>Are you currently seeing a psychiatrist? Yes/no</p> <p>Have you had any thoughts or ideas about hurting yourself recently? Yes/no</p> <p>Have you a history of depression requiring psychiatric treatment? Yes/no</p> <p>Have you been diagnosed with psychosis, bipolar disorder, obsessive-compulsive disorder, or substance misuse? Yes/no</p> <p>Are you taking antidepressants for any condition other than depression (i.e. tricyclics for pain)? Yes/no</p> <p style="margin-left: 40px;"><i>If yes to any, then exclude</i></p> <p>Which antidepressant are you taking now?</p> <div style="margin-left: 300px; border: 1px solid black; height: 20px; width: 250px;"></div>	

Study Name: Exploring patient and health professionals’ beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire
Study ID: 23956

Please can you answer a few questions for me?

Over the last 2 weeks, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

PHQ-9 TOTAL score >10?
Yes/no

Column totals + + +

If score >10 or 1 or more on PHQ-9, then exclude

TOTAL =

I.4 Consent form

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Study ID: 23956

Participant Identification Number:

CONSENT FORM

Title of Project: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire

Name of Researcher: Rachel Ryves

Please
initial box

1. I confirm that I have read the information sheet dated 27.02.2017 (Version 4) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐
3. I understand that the information collected about me will be used to support other ethically approved research in the future, and may be shared anonymously with other researchers. ☐
4. I agree to the interview being audio recorded. ☐
5. I agree to take part in the above study. ☐

Name of Participant

Date

Signature

Name of Person
taking consent

Date

Signature

Long-term_Depression_Management_in_Primary_Care_Consent_Form v.2 04.11.2016

I.5 Topic guide

Cognitive Interview Topic Guide

Introduction

1. Introduce self and thank the participant for coming. Establish rapport with the participant to ease anxiety that s/he may have about participating in the pre-interview and cognitive interview.
2. Remind the participant that the purpose of the study is to get their views and feedback on a questionnaire on long term antidepressant use. The aim is to test a questionnaire and identify questions that may be difficult to understand, hard to answer, or make little sense. The purpose is to understand about how participants arrive at the answers they give, and any problems they encounter.
3. Remind the participant that there are no right or wrong answers, and that they may criticise and give honest opinions about the questionnaire as much as they like, to know what is wrong with the questionnaire.
4. Remind the participant that the main cognitive interview will be recorded, and notes will be taken so that they can be referred back to during the next development stage. The audio recordings will be kept strictly confidential and will be only be available to the researcher.
5. Remind the participant that they will also be required to fill in some other questionnaires to get information about themselves (demographic and past history of depression questionnaire), as well as how their mood is today (PHQ-9).
6. Answer any questions the participant may have.
7. Hand the participant a consent form and ask them to initial, sign, and date.
8. Turn the recorder on and begin the pre-interview warm-up.

Warm-up Task(s)

To get you used to speaking aloud as you think, I am going to ask you a question, and I'd like you to tell me what you are thinking as you try to answer it. Any information given in the warm-up tasks will not be used for the study.

1. Try to visualize the place where you live, and think about how many windows there are in that place. As you count up the windows, tell me what you are seeing and thinking about.
2. What is your usual morning routine? As you go through your routine, tell me what you are thinking about and try to go into as much detail as possible.

Cognitive Interview Questions

Now I am going to show you the long-term antidepressant use questionnaire.

I'd like you to fill it in, and as you do so please give me a running account of what does through your mind as you are reading each question and deciding on your answer. There are no right or wrong answers, and you will not hurt my feelings with any answers that you give.

Concurrent probes should be asked about each main question on the Long-Term Antidepressant Use Questionnaire. The interviewer should be guided by the aims to 1) elicit rich information about how the participant interpreted the questions and 2) identify any problematic questions. Retrospective probes will be asked once the participant has completed the questionnaire. Further spontaneous probes may be used during the interview if the participant brings up a comment of interest that would benefit further exploration for the purposes of the study.

Concurrent probes:

General

- Can you tell me what you were thinking and feeling when you were looking at this?
- How did you go about answering that question?
- Was that easy or difficult to answer? Why?
- Why did you choose that answer?
- I noticed that you reacted/hesitated – tell me what you were thinking?

Comprehension

- What does the term X mean to you? (For terms “expect”, “intend”, “stopping antidepressants”, “people who are important to me”, “social pressure”, “doctors”)
- Can you tell me, in your own words, what the question is asking?
- How would you say that question to yourself?

Confidence Judgement

- How did you remember that?
- How well do you remember that?
- How sure of your answer are you?

Recall/Judgment

- What time period were you thinking about when you answered that question?
- What brought that to mind?

Response

- How did you feel about answering this question?
- Do you think some people might not give a true answer to this question?

Retrospective probes:

- What do you think about the length of the questionnaire?
- What would you change about the formatting of the questionnaire?
- What do you think about the way the questionnaire looks?
- How would you feel completing this questionnaire alone without someone to help you?
- How would you feel completing this questionnaire and sending it back in the post?
- How would you feel completing this questionnaire online?
- Do you have any other thoughts or comments about the questionnaire that you think may be useful for me to know?

Prompts to use if the participant stops talking:

- Tell me more about what you're thinking
- Keep talking / Mm-hmm
- Can you say more about that?
- What are you thinking about right now?

After the interview

Ask participant to complete demographic questionnaire.

When the interview has finished turn off the recorder and thank participant for their time.

Give the participant the debriefing statement and ask them whether they have any questions about the study.

Give participant £10 voucher or notify them that they will be allocated course credits to thank them for their time.

I.6 Sociodemographic questionnaire

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Study Name: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire
Study ID: 23956

Socio-demographic Questionnaire

Participant ID: _____ Date completed: _____

Please answer ALL questions as fully as you can, ticking the box next to the answer that applies to you most.

Q1. Gender

Male ☐
 Female ☐

Q2. Date of Birth

D	D	M	M	Y	Y
---	---	---	---	---	---

Q3. Ethnic Group

White <input type="checkbox"/>	Black Caribbean <input type="checkbox"/>	Black African <input type="checkbox"/>	Other <input type="checkbox"/>
Black other <input type="checkbox"/>	Indian <input type="checkbox"/>	Pakistani <input type="checkbox"/>	
Bangladeshi <input type="checkbox"/>	Chinese <input type="checkbox"/>	Other Asian group <input type="checkbox"/>	

If "Other Asian group" or "Other", please specify:

Q4. Marital Status

Married ☐ Cohabiting ☐ Widowed ☐ Separated ☐ Divorced ☐ Single ☐

Q5. Dependents

Number of dependents (over 17)
 Number of children under 5
 Number of children 5-16 inclusive

Q6. Accommodation status

Owner-occupied <input type="checkbox"/>	Private rental <input type="checkbox"/>
Job related <input type="checkbox"/>	Lives with parents <input type="checkbox"/>
Council/housing association <input type="checkbox"/>	Other <input type="checkbox"/>

If "Other" please specify:

Study Name: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire
Study ID: 23956

Q7. Type of accommodation

Detached	<input type="checkbox"/>	Semi-detached	<input type="checkbox"/>	End-terrace	<input type="checkbox"/>	Other	<input type="checkbox"/>
Mid-terrace	<input type="checkbox"/>	Flat/Maisonette	<input type="checkbox"/>	Bedsit	<input type="checkbox"/>		
Hostel	<input type="checkbox"/>	Halls of residence	<input type="checkbox"/>	No fixed abode	<input type="checkbox"/>		

If "Other" please specify:

Q8. Still in education

No ☐ If No, please answer question 8a.
 Yes FT ☐ If Yes, please answer question 8b.
 Yes PT ☐

Q8a. Age left full-time education

Q8b. Course title

Q9. Highest exam level

None	<input type="checkbox"/>
CSE/NVQ Level 1	<input type="checkbox"/>
GCSE/O Level/NVQ Level 2	<input type="checkbox"/>
A level/BTEC/NVQ Level 3	<input type="checkbox"/>
HNC/HND/City & Guilds/Teaching qualification/NVQ Level 4	<input type="checkbox"/>
Degree/higher degree/NVQ Level 5	<input type="checkbox"/>
Vocational qualification	<input type="checkbox"/>
Other	<input type="checkbox"/>

If "Other" or unsure of level, enter here:

Q10. Economic position

Full-time work	<input type="checkbox"/>	Part-time work	<input type="checkbox"/>	Permanently sick/disabled	<input type="checkbox"/>
Unemployed	<input type="checkbox"/>	Retired	<input type="checkbox"/>	Student	<input type="checkbox"/>
Homemaker	<input type="checkbox"/>	Voluntary work	<input type="checkbox"/>	Other	<input type="checkbox"/>

If "Other", please specify:

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Study Name: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire
Study ID: 23956

Q11. Occupation

Please state your occupation:

Is this occupation:
 Current employment ☐ | Main employment ☐ | Last employment (if unemployed) ☐

Function of organisation/nature of business:

Q12. Partner's economic position
 Full-time work ☐ | Part-time work ☐ | Permanently sick/disabled ☐

 Unemployed ☐ | Retired ☐ | Student ☐

 Homemaker ☐ | Voluntary work ☐ | Other ☐

If "Other", please specify:

Q13. Partner's occupation

Please state your occupation:

Is this occupation:
 Current employment ☐ | Main employment ☐ | Last employment (if unemployed) ☐

Function of organisation/nature of business:

Thank you for completing this questionnaire

I.7 Past history of depression questionnaire

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Study Name: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire

Study ID: 23956

Past History of Depression Questionnaire

Participant ID: _____ Date completed: _____

Please answer ALL questions as fully as you can, ticking the box next to the answer that applies to you most.

1. How long have you suffered from depression?

Years Months

2. How long have you been taking antidepressants for your current episode of depression?

Years Months

3. What antidepressant are you currently taking?

(Name of drug and dose if known)

4. How old were you when were you first prescribed antidepressants?

Years

5. Have you successfully stopped antidepressant treatment before?

(Successfully = experienced symptom free episode(s) while off antidepressant treatment)

☐ Yes
☐ No

If yes, how long were you off antidepressants for?

Years Months

Thank you for completing this questionnaire.

I.8 Debriefing statement

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Study Name: Exploring patient and health professionals' beliefs, attitudes, and behavioural intentions towards long-term depression management in primary care: cognitive interviewing study to develop a patient questionnaire
Study ID: 23956

Debriefing Statement

Thank you for taking part in this cognitive interview study.

Study Aims

We are aiming to explore peoples' understanding of a questionnaire on long-term antidepressant use, which has been created based on psychological theory called The Theory of Planned Behaviour (Ajzen, 1991). The theory suggests that if a person has a more positive attitude, greater belief in being in control, and feels greater social pressure towards a certain behaviour, they will have greater intentions to carry out that behaviour. The overall aim of this PhD is to explore whether particular factors influence the intentions of individuals with long-term depression to continue or stop their use of antidepressants, and whether these intentions become an actual behaviour.

You were asked to talk through your thought processes while completing a draft of the Beliefs About Long-term Antidepressant Use questionnaire. The interview was audio recorded, and notes were made by the researcher. The feedback you provided will be used along with feedback from other participants to modify, develop, and improve the questionnaire, before it is used in a larger study. We will not be analysing your actual responses to the questions in the questionnaire.

Future contact

If you would like to receive a summary of results from the main study, then please leave your email address with the researcher. It is anticipated that the PhD will be completed by 2019. You may also request to be notified of any publications relating to the study.

If you have any questions about the study, then please feel free to contact Rachel Ryves via email (rr4g08@soton.ac.uk) or telephone (02380 241 067). If you have any concerns about the study, then please contact Rachel's Lead PhD Supervisor, Professor Tony Kendrick (a.r.kendrick@soton.ac.uk; 02380241083). You may also contact the Research Integrity & Governance Team at the University of Southampton (email rgoinfo@soton.ac.uk or telephone 02380595058).

Seeking Medical Advice

If you feel that your involvement in the study has caused concern about your depression or your treatment, then we strongly recommend that you see your doctor.

Sources of additional information and support:

www.nhs.uk

www.mind.org.uk/information-support/

References

Ajzen, I. (1991). The Theory of Planned Behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179-211.

Long-term Depression Management in Primary Care Debriefing Statement v.2 04.11.2016

Appendix J Suggested changes to questionnaire

Item	Recommendations	Discussion with experts	Changes
1	Need to provide definition of “stop” at beginning of questionnaire, or change “stop” to “reduce” so it is clear that questionnaire is asking about discontinuation rather than being completely off antidepressants within 6 months.	“Tapering” was suggested as an alternative, but considered that it may be too complex for someone with low health literacy. Other alternatives were “reduce”, “start reducing”, and “start to come off”.	Change “stop” to “start to come off” on all relevant TPB questionnaire items.
2	Italicise “want”, “expect”, “intend” in items 1-3 to highlight difference between meaning of questions?	<p>The idea of having an instruction line before these questions was raised. It was thought some participants may not read all instructions prior to answering questions.</p> <p>The suggestion that items 1-3 should be separated and asked at different points in questionnaire was considered, but participants may feel they were being asked the same question and not interpreting the items differently.</p> <p>Formatting “want”, “expect”, “intend” to underlined/italics may be suitable.</p>	Format “want”, “expect”, and “intend” to underline and italics.
3	Need to consider definition of “stop” throughout questionnaire so participants are aware it is discontinuation process rather than being completely off antidepressants within 6 months.	Timeframe: there was discussion around why 6 months was the timeframe used in the study. As well as feasibility, 6 months was deemed suitable as long-term users of antidepressants (years) would taper off antidepressants over some months. The median use of antidepressants is 2 years. Participant characteristics of the sample in	Check that all TPB-based questionnaire items have “within the next 6 months” timeframe.


Item	Recommendations	Discussion with experts	Changes
		the first 5 cognitive interviews showed mean antidepressant use of 6 years.	
4	No change necessary.	One respondent suggested splitting the question to ask about confidence in stopping antidepressants, and confidence in coping afterwards. There was some discussion as to whether this would be beneficial, but it was decided that it would not be necessary as it would add to the time taken to complete the questionnaire, and other items ask questions about consequences of stopping antidepressants.	No change necessary.
5	No change necessary.		
6	No change necessary?	It was suggested that items that ask about doctors should be moved to later on in the questionnaire, as this may cause order effects with subsequent items about control beliefs (e.g. considering role of GP may influence response as to how much control participants have in making decision to stop antidepressants).	Move questions about doctors to later on in the questionnaire to avoid order effects.
7	No change necessary.		
8	Keep: <ul style="list-style-type: none"> • Reassuring/Worrying • Desirable/Undesirable • Unnecessary/Necessary • Beneficial/Harmful • Unpleasant/Pleasant 	As one participant asked “for whom” these semantics apply, it may be worth highlighting “For me”. Some participants found it hard to make decisions as they had not thought about stopping/attempted to stop before. It may be	Italicise and underline “For me”. Change item statement to “For me, starting to come off antidepressants would be:” Remove reassuring/worrying along with other pairs suggested, except for good/bad.

Item	Recommendations	Discussion with experts	Changes
	<ul style="list-style-type: none"> Safe/Dangerous Remove: <ul style="list-style-type: none"> Useful/Worthless (lack of comprehension) Difficult/Easy (asked in question 11) Good/Bad (subjective and may lead to socially desirable response?) Convenient/Inconvenient (participants seemed indifferent to item) Natural/Unnatural (lack of comprehension) 	<p>beneficial to change the statement to be conditional.</p> <p>Reassuring/Worrying was seen as a unipolar set of words, so should be removed.</p> <p>Good/Bad was discussed and it was agreed that it may be interesting to include as it adds a moral dimension to the item. It was questioned whether good/bad may be similar to undesirable/desirable.</p>	<p>Keep good/bad and undesirable/desirable and test in next round of cognitive interviews. Ask participants about judgement/comprehension.</p>
9	No change necessary.		Ensure that item 9 precedes questions about normative belief items.
10	Need to consider formatting of “should’ and “should not”.		Ensure item does not cause order effects on items regarding perceived behavioural control.
11	No change necessary.	As with item 8, it would be better to change the statement so it is conditional as some people may not know what stopping antidepressants “is” like.	Change item to read: “For me to start to come off antidepressants would be:”
12	No change necessary.		
13	Need to clearly define “health” as “general health”?	As the item is pre-validated (BMQ-Specific), it be best to leave it as it is. It may be beneficial to contact Rob Horne for comment.	Leave item as it is, but contact Rob Horne for opinion.
14 - 18	No change necessary.		
19	Need to define timeframe of “future”?	As per item 13, as question is from pre-validated questionnaire it is advisable to leave it as it is, and contact Rob Horne for advice.	Leave item as it is but contact Rob Horne for opinion.

Item	Recommendations	Discussion with experts	Changes
20 – 29	No change necessary.		
30	Reword question so it is easier to interpret?	<p>There was some discussion around the phrasing of the question, as it is hard to interpret. As it is a pre-validated question, it may not be possible to change. It would be worth checking the scoring of the PATD, to see whether item can be removed without compromising predictive validity of questionnaire.</p> <p>It may not be a question that is applicable to all participants as some do not pay for prescriptions. It may be worth asking whether</p>	Check scoring of PATD, then make a decision whether to keep or remove item. Contact Emily Reeve if necessary.
31 - 33	No change necessary.		
34	Include “my doctor” and “a doctor”?	As per other items based on PATD, the scoring of the questionnaire would need to be looked at to see whether items can be changed.	Leave question as is for now.
35	Include option to tick “yes”, “no”, “maybe”.	As per other items based on PATD, the scoring of the questionnaire would need to be looked at to see whether items can be changed.	Leave question as is for now.
General	<p>Highlight to participant that this questionnaire will not be shown to GP as it is anonymous and should answer as honestly as possible, to reduce social desirability?</p> <p>Is there a need to define what middle of Likert scale means (i.e. 4 is neutral rather than unsure?)</p> <p>Add timeframe to questions 23-31.</p>	<p>As questionnaire manual for TPB does not give this instruction, leave scales as they are.</p> <p>Timeframe is not really applicable to all questions included (23-31) are PATD items.</p> <p>This may be useful for participants to share information if they wish. Some qualitative description analysis (Sandilowski) could be performed on the data, and may be useful if</p>	<p>Ensure this is on front of questionnaire (this is included on PIL).</p> <p>Do not add definition for middle of Likert scale.</p> <p>Do not add timeframe.</p> <p>Add text-box to the end of the questionnaire, and highlight that this is optional.</p>

Item	Recommendations	Discussion with experts	Changes
	Have option for free text response at end of questionnaire.	questionnaire misses any areas of long-term antidepressant use that is relevant towards intentions of stopping.	
Format	Have dark colour scheme. Put “yes”, “no”, “maybe” for question 35. Questions 1-7 “agree” and “disagree” in bold.		Leave as is for now and check scoring of PATD. Change formatting to bold on “agree” and “disagree” etc.
Completing alone	Make sure participants know that questionnaire will not be shown to GP and to answer as honestly as possible.		This has been added to the top of the questionnaire and is included in the PIL.
Post/online	Give participants option to complete by post or online.		Participants will be given this option.

Appendix K APPLAUD Questionnaire: Version 2

Medicine	
Participant ID: _____	Date: ____/____/____

Beliefs About Long-term Antidepressant Use Questionnaire

This questionnaire asks you about your antidepressant use. Please answer the questions as honestly as you can. Your doctor will not see the results of the questionnaire.

Please read each statement carefully, and circle the number of the response that you feel applies most to you.

1. I <u>expect</u> to start to come off antidepressants within the next six months							
Strongly Disagree				Strongly Agree			
1	2	3	4	5	6	7	

2. I <u>want</u> to start to come off antidepressants within the next six months							
Strongly Disagree				Strongly Agree			
1	2	3	4	5	6	7	

3. I <u>intend</u> to start to come off antidepressants within the next six months							
Strongly Disagree				Strongly Agree			
1	2	3	4	5	6	7	

4. I am confident that I could start to come off antidepressants within the next six months, if I wanted to							
Strongly Disagree				Strongly Agree			
1	2	3	4	5	6	7	

5. The decision for me to start to come off antidepressants is beyond my control							
Strongly Disagree				Strongly Agree			
1	2	3	4	5	6	7	

6. For <u>me</u> , to start to come off antidepressants within the next six months would be:								
Desirable	1	2	3	4	5	6	7	Undesirable
Unnecessary	1	2	3	4	5	6	7	Necessary
Beneficial	1	2	3	4	5	6	7	Harmful
Good	1	2	3	4	5	6	7	Bad
Unpleasant	1	2	3	4	5	6	7	Pleasant
Safe	1	2	3	4	5	6	7	Dangerous
Easy	1	2	3	4	5	6	7	Difficult

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7. Whether I start to come off antidepressants within the next six months or not is entirely up to me

Strongly Disagree				Strongly Agree		
1	2	3	4	5	6	7

8. Most people who are important to me think that I:

should	1	2	3	4	5	6	7	should not
start to come off antidepressants				start to come off antidepressants				

9. I feel under social pressure to start to come off antidepressants within the next six months

Strongly Disagree				Strongly Agree		
1	2	3	4	5	6	7

10. My doctor(s) think that I should start to come off antidepressants within the next six months

Strongly Disagree				Strongly Agree		
1	2	3	4	5	6	7

11. People who are close to me want me to start to come off antidepressants within the next six months

Strongly Disagree				Strongly Agree		
1	2	3	4	5	6	7

Please read through each of the following statements carefully, and circle your response to how much you agree or disagree with the statements.

12. My health, at present, depends on my antidepressants

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

13. Having to take antidepressants worries me

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

14. My life would be impossible without my antidepressants

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
----------------	-------	-----------	----------	-------------------

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15. Without my antidepressants I would be very ill				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
16. I sometimes worry about long-term effects of my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
17. My antidepressants are a mystery to me				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
18. My health in the future will depend on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
19. My antidepressants disrupt my life				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
20. I sometimes worry about becoming too dependent on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
21. My antidepressants protect me from becoming worse				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

Please read through the following statements carefully, and indicate whether you agree with them by ticking the appropriate box.

	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
22. I am comfortable taking antidepressants					
23. I believe that my antidepressants are necessary					
24. If my doctor said it was possible I would be willing to stop taking my antidepressants					
25. I would like to stop taking my antidepressants					
26. I feel I may be taking antidepressants that I no longer need					
27. I would accept managing my depression in other ways					
28. I have a good understanding of the reasons I was prescribed antidepressants					
29. Not having to pay for prescriptions would play a role in my willingness to stop taking antidepressants					
30. I believe my antidepressants are giving me side effects					

31. Have you ever tried to stop taking antidepressants with your doctor's knowledge?

Yes

☐

No

☐

32. Have you ever tried to stop taking antidepressants without your doctor's knowledge?

Yes

☐

No

☐

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33. How comfortable would you be if the following health professionals were involved in stopping your antidepressants and provided the follow up? *(Please tick your answer)*

	Uncomfortable	Unsure	Comfortable
Doctor			
Nurse Practitioner			
Pharmacist			

34. If your antidepressants were stopped, what follow-up would you like? *(Please tick all that apply)*

<input type="checkbox"/>	Face-to-face appointment with my doctor
<input type="checkbox"/>	Face-to-face appointment with a practice nurse
<input type="checkbox"/>	Face-to-face appointments with a pharmacist
<input type="checkbox"/>	Phone call(s) from my doctor
<input type="checkbox"/>	Phone call(s) from a practice nurse
<input type="checkbox"/>	Phone call(s) from a pharmacist
<input type="checkbox"/>	Written information via post
<input type="checkbox"/>	Written information via email
<input type="checkbox"/>	I wouldn't need follow-up. I would be happy contacting a health professional if I had any problems

The next question is optional. If you have any additional comments that you feel may be useful for the researcher to know, then please write them in the box below:

35. Additional comments:

THANK YOU FOR COMPLETING THE QUESTIONNAIRE

Appendix L APPLAUD study questionnaire pack

L.1 Cover letter

Practice Headed paper and Trust logo

<patient name and address>

ERGO Study ID: 25136
IRAS Study ID: 222680

<insert date>

Dear <insert patient name>

**Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression:
The APPLAUD Study**

We would like you to consider taking part in a study that look at the beliefs and behaviours patients have towards long-term antidepressant use for depression, anxiety or low mood. The study would like to find out the reasons why some patients stay on antidepressants for a long time, and the reasons why they are likely (or unlikely) to stop taking them. The study is being run by a PhD student at the University of Southampton, and is funded by the National Institute for Health Research (NIHR) School for Primary Care Research (SPCR).

We are writing to you because our records show that you have been prescribed antidepressant medication for 2 years or longer, and would be eligible to take part in this study.

We have enclosed an information leaflet outlining the study, telling you more about it and what your involvement would mean for you. You would need to complete the questionnaires included in this pack, or if you prefer, they can be completed online, using the link and login details on the front page of the questionnaire booklet.

If you have any further questions or would like to discuss the study in more detail, please contact the researcher using the details below:

Researcher: Rachel Ryves
Email: applaud@soton.ac.uk
Study office phone: 02380 591755
Study mobile phone: 07379523467

Your participation in the study is purely voluntary and you may decide not to take part without affecting your care in any way.

Thank you very much for taking the time to read this letter and the attached information sheet.

Yours sincerely

Dr <insert GP name>

APPLAUD_Patient invitation letter MAILOUT v1 08.02.2017

L.2 Participant information leaflet

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Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (The APPLAUD Study)

Participant Information Sheet [v.3]

Researcher: Rachel Ryves

ERGO number: 25136 **IRAS Number:** 222680 **Sponsor:** University of Southampton

Please read this information carefully before deciding whether to take part in this research.

What is the research about?

My name is Rachel Ryves and this study forms part of my PhD studentship in Primary Care, funded by the School for Primary Care Research (SPCR). The wider aim of my research is to look at how long-term depression, anxiety or low mood is managed in primary care. The aim of this study is to look what people think and do about their problems with long-term depression, anxiety or low mood and how they are treated. In particular I would like to explore why some patients stay on antidepressants for a long time, and why they are likely (or unlikely) to stop taking them. The study also looks at whether participants' attitudes towards antidepressants and how they themselves cope with their problems influences whether they continue to stay on antidepressants or not.

Why have I been chosen?

Your GP practice has agreed to help us find eligible participants for the study. You have been contacted as your records indicate that you have been receiving prescriptions for antidepressant medication for depression, anxiety or low mood for 2 years or longer.

What will happen to me if I take part?

Questionnaire Study

If you wish to take part, you will be required to complete the questionnaires included in this pack. The questionnaires ask for your opinions about using antidepressants, your current symptoms and quality of life. Completing the questionnaires should take no longer than 45 minutes.

Once you have completed the questionnaires you would need to return them, using the FREEPOST envelope provided.

Alternatively, there is an option to complete the questionnaires online at [www.isurvey.soton.ac.uk/24432]. If you would like to complete the questionnaires online, you can log onto the website using the unique Participant ID and password on the front of the letter from your GP included in this pack.

Within this pack, there is a consent form. The consent form asks if you consent for your doctor to look your medical records. This is to see if you have been to see a GP for your depression, anxiety or low mood within 6 months of completing the questionnaires; and whether you have continued or stopped your antidepressants by that point. The GP would then let the researcher know this information by completing a form and sending it to the researcher. No other medical or personal information will be shared with the researcher. The consent form also asks whether you would agree to be contacted about taking part in a face-to-face or telephone interview with the researcher.

Interview Study

If you complete the questionnaires, you will be invited to express an interest in being contacted to take part in a one-off, hour-long interview with the researcher. The interview will ask you about your experiences of long-term depression, anxiety or low mood, how you manage with your problems, and your views and experiences of taking antidepressants. The interview can take place at your home or at your GP practice, whichever you prefer, and at a time that is suitable for you. You can express an interest in taking part in the interview on the consent form.

Not all participants who express an interest will be interviewed, if the required number of participants needed is achieved. If you are invited to do an interview, you will be given more information about what is involved and asked to give additional consent in writing to this part of the study. The interview is optional and it is up to you whether you wish to be contacted to take part.

Are there any benefits in my taking part?

It is unlikely that people taking part in the study will have any personal benefit. However, your involvement in the study would give us a greater understanding of how long-term depression, anxiety or low mood are treated with antidepressants in primary care. We hope that this will help practices to treat patients better in the future.

What are the possible disadvantages and risks of taking part?

The main disadvantage is that it takes some time to complete the questionnaires and the interview (if you agree to that part of the study).

You will be asked questions about how you cope with your problems including your current symptoms of depression, anxiety, or low mood and quality of life, some of which you may find sensitive or difficult to answer. You are not under any pressure to answer these questions if you do not want to.

Will my participation be confidential?

Questionnaires that are completed by you will not have your name or address on them but will instead be kept anonymous by giving you a unique identification number. No information that can identify an individual will be on the questionnaires.

All personal details will be kept strictly confidential and will only be available to the researcher. Any personal details that you provide will be stored separately from any other information in a password-protected computer file, and paper documents will be stored in a locked filing cabinet kept separately from the questionnaires. These details will not be removed from the study office and will be stored in line with the University of Southampton's policy and procedures. No personally identifiable information such as names or addresses will ever be shared with any third party.

Your GP practice will be notified that you have taken part in the study. This will be done by the researcher contacting the GP practice and providing them with the ID number you have been allocated. The GP practice has a list of the ID numbers and will mark your involvement in the study against this list. **The answers you give in the questionnaires will not be shared with your GP and will only be used for the purpose of this study.**

What will happen to the results of the research study?

The results will be reported in the thesis as part of the researcher's PhD, and used in publications in peer-reviewed scientific journals. This will not include any information that makes it possible for you to be identified. At the end of the study, we will send you a report of the results of the study for your information.

What happens if I change my mind?

You can decide to stop taking part in the study at any time, without giving any reason why. Withdrawing from the study will not affect your legal or medical rights.

What happens if something goes wrong?

If you are concerned about the conduct of the study, then please contact Rachel Ryves' Lead PhD Supervisor, Professor Tony Kendrick (a.r.kendrick@soton.ac.uk; 02380591790). You may also contact the Research Integrity & Governance Team at the University of Southampton (email rgoinfo@soton.ac.uk or telephone 02380595058).

If you remain unhappy and wish to complain informally, you can do this through the NHS complaints procedure. Details are available from your GP practice.

Where can I get more information?

If you would like further information about the study or have any questions you can get in touch with Rachel Ryves by calling 02380591755 / 07379523467 or emailing her at applaud@soton.ac.uk.

L.3 Consent form

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CONSENT FORM

Title of Project: Attitudes and Preferences of People regarding Long-term Antidepressant Use (The APPLAUD Study)

Name of Researcher: Rachel Ryves

IRAS ID: 222680

Study Number: 25136

Participant Identification Number for this trial:

The consent form asks if you consent for your doctor to look your medical records. This is to see if you have been to see a GP for your depression, anxiety or low mood within 6 months of completing the questionnaires; and whether you have continued or stopped your antidepressants by that point. The GP would then let the researcher know this information by completing a form and sending it to the researcher. No other medical or personal information will be shared with the researcher.

Please **initial** box

1. I understand that relevant sections of my medical notes and data collected during the study may be looked at by individuals from University of Southampton, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records. ☐
2. I agree to my General Practitioner being involved in the study, including any necessary exchange of information about me between my GP and the research team. ☐
3. I agree to be contacted about taking part in the interview study. **I understand that this part of the is optional**, and that not all participants who express an interest will be interviewed. ☐

Name of Participant

Date

Signature

PLEASE TURN OVER

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If you are happy about being contacted about taking part in the interview study, please fill in the form below. This part of the study is optional.

The APPLAUD Study: CONSENT TO CONTACT FORM

Study ID: 25136

Participant ID:**Name:**

Telephone Number:

Email Address:

Preferred method of contact:

Email

Phone

*(please circle all that apply):***Preferred day to be contacted:**

Mon

Tues

Weds

Thurs

Fri

Sat

Sun

*(please circle all that apply):***Preferred contact time:**

9 am -12pm

12pm – 2pm

2pm – 5pm

5pm – 8pm

*(please circle all that apply)**PLEASE RETURN THIS FORM IN THE SMALL FREEPOST ENVELOPE**Thank you.*

Appendix M APPLAUD questionnaire booklet

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APPLAUD

Attitudes and Preferences of People regarding Long-term
Antidepressant Use for Depression

Questionnaire Survey

Patient ID Number

Please ensure you have read the information leaflet included in the pack before you decide to take part.

The aim of this study is to look at what people think and do about their long-term depression, anxiety, or low mood.

You will be asked questions about your beliefs about your depression, anxiety, and low mood; your antidepressant use; and current symptoms of depression, anxiety, or low mood. Completing the questionnaires should take no longer than 30 minutes.

Your GP practice will be notified that you have taken part in the study. **The answers you give in the questionnaires will not be shared with your GP and will only be used for the purpose of this study.**

When you have completed the questionnaire, please return it in the FREEPOST Envelope provided, or to:

The APPLAUD Study
FREEPOST LICENCE NO: RTLE-TKTU-KRBX
Primary Care & Population Sciences
Aldermoor Health Centre
Aldermoor Close
Southampton
SO16 5ST

Online Questionnaire login details:

If you would prefer to complete the questionnaire online, please go to
www.isurvey.soton.ac.uk/24432

Once you have gone to the website, please log in using your patient ID number in the box above, and using the password: **APPLAUD1718**

Socio-demographic Questionnaire

Please answer ALL questions as fully as you can, ticking the box next to the answer that applies to you most.

1. Gender

Male ☐

Female ☐

2. Date of Birth

D	D	M	M	Y	Y
---	---	---	---	---	---

3. Ethnic Group

White <input type="checkbox"/>	White Other <input type="checkbox"/>	Black Caribbean <input type="checkbox"/>	Black African <input type="checkbox"/>
Black other <input type="checkbox"/>	Indian <input type="checkbox"/>	Pakistani <input type="checkbox"/>	
Bangladeshi <input type="checkbox"/>	Chinese <input type="checkbox"/>	Other Asian group <input type="checkbox"/>	

If "White other", "Other Asian group", or "Black other" please specify:

4. Marital Status

Married ☐ Cohabiting ☐ Widowed ☐ Separated ☐ Divorced ☐ Single ☐

5. Dependants

Number of dependants (over 17)

Number of children under 5

Number of children 5-16 inclusive

6. Accommodation status

Owner-occupied <input type="checkbox"/>	Private rental <input type="checkbox"/>
Job related <input type="checkbox"/>	Lives with parents <input type="checkbox"/>
Council/housing association <input type="checkbox"/>	Other <input type="checkbox"/>

If "Other" please specify:

7. Type of accommodation

Detached <input type="checkbox"/>	Semi-detached <input type="checkbox"/>	End-terrace <input type="checkbox"/>	Other <input type="checkbox"/>
Mid-terrace <input type="checkbox"/>	Flat/Maisonette <input type="checkbox"/>	Bedsit <input type="checkbox"/>	
Hostel <input type="checkbox"/>	Halls of residence <input type="checkbox"/>	No fixed abode <input type="checkbox"/>	

If "Other" please specify:

8. Still in education

- No ☐ *If No, please answer question 8a.*
- Yes FT ☐
- Yes PT ☐ *If Yes, please answer question 8b.*

8a. Age left full-time education

8b. Course title

9. Highest exam level

- | | |
|--|--------------------------|
| None | <input type="checkbox"/> |
| CSE/NVQ Level 1 | <input type="checkbox"/> |
| GCSE/O Level/NVQ Level 2 | <input type="checkbox"/> |
| A level/BTEC/NVQ Level 3 | <input type="checkbox"/> |
| HNC/HND/City & Guilds/Teaching qualification/NVQ Level 4 | <input type="checkbox"/> |
| Degree/higher degree/NVQ Level 5 | <input type="checkbox"/> |
| Vocational qualification | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |

If "Other" or unsure of level, enter here:

10. Economic position

- | | | | |
|---|---|--|--------------------------------|
| Full-time work <input type="checkbox"/> | Part-time work <input type="checkbox"/> | Self-employed <input type="checkbox"/> | Other <input type="checkbox"/> |
| Voluntary work <input type="checkbox"/> | Unemployed <input type="checkbox"/> | Permanently sick/disabled <input type="checkbox"/> | |
| Homemaker <input type="checkbox"/> | Retired <input type="checkbox"/> | Student <input type="checkbox"/> | |

If "Other", please specify:

11. Occupation

Please state your occupation:

Function of organisation/nature of business:

APPLAUD Questionnaire

This questionnaire asks you about your antidepressant use. Please answer the questions as honestly as you can. Your doctor will not see the results of the questionnaire.

Please read each statement carefully, and circle the number of the response that you feel applies most to you.

1. I <u>expect</u> to start to come off antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

2. I <u>want</u> to start to come off antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

3. I <u>intend</u> to start to come off antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

4. I am confident that I could start to come off antidepressants within the next six months, if I wanted to						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

5. The decision for me to start to come off antidepressants is beyond my control						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

6. For <u>me</u> , to start to come off antidepressants within the next six months would be:								
Desirable	1	2	3	4	5	6	7	Undesirable
Unnecessary	1	2	3	4	5	6	7	Necessary
Beneficial	1	2	3	4	5	6	7	Harmful
Good	1	2	3	4	5	6	7	Bad
Unpleasant	1	2	3	4	5	6	7	Pleasant
Safe	1	2	3	4	5	6	7	Dangerous
Easy	1	2	3	4	5	6	7	Difficult

7. Whether I start to come off antidepressants within the next six months or not is entirely up to me						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

8. Most people who are important to me think that I:								
should	1	2	3	4	5	6	7	should not
start to come off antidepressants					start to come off antidepressants			

9. I feel under social pressure to start to come off antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

10. My doctor(s) think that I should start to come off antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

11. People who are close to me want me to start to come off antidepressants within the next six months						
Strongly Disagree			Strongly Agree			
1	2	3	4	5	6	7

Please read each of the following statements carefully, and circle your response to how much you agree or disagree with the statements.

12. My health, at present, depends on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

13. Having to take antidepressants worries me				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

14. My life would be impossible without my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

15. Without my antidepressants I would be very ill				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

16. I sometimes worry about long-term effects of my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

17. My antidepressants are a mystery to me				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

18. My health in the future will depend on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

19. My antidepressants disrupt my life				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

20. I sometimes worry about becoming too dependent on my antidepressants				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

21. My antidepressants protect me from becoming worse				
Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

Please read through the following statements carefully, and indicate whether you agree with them by ticking the appropriate box.

	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
22. I am comfortable taking antidepressants					
23. I believe that my antidepressants are necessary					
24. If my doctor said it was possible I would be willing to stop taking my antidepressants					
25. I would like to stop taking my antidepressants					
26. I feel I may be taking antidepressants that I no longer need					
27. I would accept managing my depression in other ways					
28. I have a good understanding of the reasons I was prescribed antidepressants					
29. Not having to pay for prescriptions would play a role in my willingness to stop taking antidepressants					
30. I believe my antidepressants are giving me side effects					

31. Have you ever tried to stop taking antidepressants with your doctor's knowledge?

Yes

☐

No

☐

32. Have you ever tried to stop taking antidepressants without your doctor's knowledge?

Yes

☐

No

☐

33. How comfortable would you be if the following health professionals were involved in stopping your antidepressants and provided the follow up? <i>(Please tick your answer)</i>			
	Uncomfortable	Unsure	Comfortable
Doctor			
Nurse Practitioner			
Pharmacist			

34. If your antidepressants were stopped, what follow-up would you like? (Please tick <u>all</u> that apply)	
<input type="checkbox"/>	Face-to-face appointment with my doctor
<input type="checkbox"/>	Face-to-face appointment with a practice nurse
<input type="checkbox"/>	Face-to-face appointments with a pharmacist
<input type="checkbox"/>	Phone call(s) from my doctor
<input type="checkbox"/>	Phone call(s) from a practice nurse
<input type="checkbox"/>	Phone call(s) from a pharmacist
<input type="checkbox"/>	Written information via post
<input type="checkbox"/>	Written information via email
<input type="checkbox"/>	I wouldn't need follow-up. I would be happy contacting a health professional if I had any problems

The next question is optional. If you have any additional comments that you feel may be useful for the researcher to know, then please write them in the box below:

35. Additional comments:

Beliefs about Depression Questionnaire

We are interested in finding out about your beliefs about your condition. We are interested in your beliefs rather than those of your health professional, family member or friends. For each of the following questions please put a tick in the box which best represents your beliefs.

1. Your Doctor has diagnosed you with depression. Do you think this is the correct name for your condition?

Yes		No	
-----	--	----	--

If no, what would you call your condition? _____

2. Which of the following symptoms do you think are related to your depression?

Symptom	Yes	No	Symptom	Yes	No
Lack of hope for the future			Reduced energy		
Pain			Tiredness		
Feeling of a black cloud hanging over me			Dizziness		
Changes in appetite			Weight loss		
Breathlessness			Unable to enjoy things		
Agitation			Muscle aches		
Suicidal thoughts			Short tempered		
Other symptoms, please specify:					

For each of the following statements please indicate how much you agree or disagree by placing a tick in the relevant box. There are no correct answers – we want to know what you think.

3. What do you think **caused** your depression/condition?

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
Low esteem/ lack of confidence						
My personal flaws						
Unresolved problems from the past						
Problems from childhood						
Problems with relationships (family, partner or friends)						
Bereavement						
Work						
Physical illness						
Chemical or hormonal changes						
Inherited/ caused by genetic factors						
Overdoing things						
I don't know what caused my depression						
Other causes of my condition, please specify:						

4. How **long** do you think this condition will **last**?

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
I will always have this condition						
My symptoms come and go in cycles						
I expect to have this condition for the rest of my life						
I go through cycles in which my condition gets better and worse						

5. What do you think would help **control** or **cure** your condition?

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
Medication prescribed by my doctor						
Changing how I think about myself						
Changing my behaviour						
Spirituality/ religious beliefs						
I cannot do anything to alter the course of my condition						
I don't know what will help						
Counselling/ therapy						
Talking/ support from family or friends						
Talking/ support from professionals						
Talking/ support from fellow sufferers						
Keeping busy						
Medication prescribed by another practitioner e.g. homeopath						
Natural medicines e.g. St John's Wort						
Exercise						
Other things which help my condition, please specify:						

6. What are the **consequences** of having this condition?

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
I do not want to go out						
I neglect myself						
I have to hide how I feel from other people						
I want to avoid other people						
Having this condition makes me a stronger person						
There is a stigma						
My condition affects how others see me						
Other consequences of my condition, please specify:						

PHQ – 8 Questionnaire

Over the <u>last 2 weeks</u> , how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
Little interest or pleasure in doing things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling down, depressed, or hopeless	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trouble falling or staying asleep, or sleeping too much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling tired or having little energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Poor appetite or overeating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feeling bad about yourself – or that you are a failure or have let yourself or your family down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trouble concentrating on things, such as reading the newspaper or watching television	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Past History of Depression Questionnaire

Please answer ALL questions as fully as you can, putting your answers in the boxes provided.

1. How long have you suffered from depression?

 Years

 Months

2. How long have you been taking antidepressants for your current episode of depression?

 Years

 Months

3. What antidepressant are you currently taking? (Name of drug and dose if known)

4. How old were you when were you first prescribed antidepressants?

 Years

5. Have you successfully stopped antidepressant treatment before?

(Successfully = experienced symptom free episode(s) while off antidepressant treatment)

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

If yes, how long were you off antidepressants for?

 Years Months

Thank you for taking part in this questionnaire study

Study Aims

The aim of this study is to investigate whether particular factors influence the intentions of individuals with long-term depression, anxiety or low mood to continue or stop their use of antidepressants, and whether these intentions become an actual behaviour.

You were asked to complete a set of questionnaires that asked you about your beliefs about long-term antidepressant use, your current symptoms of depression, anxiety, low mood and quality of life, and your history of antidepressant use. The information you provided will be used to see whether certain attitudes, behaviours, and beliefs about long-term antidepressant use for long-term depression, anxiety or low mood predict whether people stop or continue taking antidepressants.

Future contact

If you would like to receive a summary of results from the main study, then please contact the researcher. It is anticipated that the PhD will be completed by 2019. You may also request to be notified of any publications relating to the study.

If you have any questions about the study, then please feel free to contact Rachel Ryves via email (applaud@soton.ac.uk) or telephone (02380 591 755 / 07379523467). If you have any concerns about the study, then please contact Rachel's Lead PhD Supervisor, Professor Tony Kendrick (a.r.kendrick@soton.ac.uk; 02380 591 790). You may also contact the Research Integrity & Governance Team at the University of Southampton (email rginfo@soton.ac.uk or telephone 02380595058).

Seeking Medical Advice

If you feel that your involvement in the study has caused concern or raised questions about your depression or your treatment, then we strongly recommend that you see your doctor.

Sources of additional information and support:

<http://www.nhs.uk/livewell/mentalhealth/Pages/Mentalhealthhome.aspx>

www.mind.org.uk/information-support/

Appendix N APPLAUD follow-up reminder letter

Practice Headed paper and Trust logo

<patient name and address>

ERGO Study ID: 25136
IRAS Study ID: 222680

<insert date>

Dear <insert patient name>

**Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression:
The APPLAUD Study**

We wrote to you recently to consider taking part in a study that look at the beliefs and behaviours patients have towards long-term antidepressant use for depression, anxiety or low mood. The study would like to find out the reasons why some patients stay on antidepressants for a long time, and the reasons why they are likely (or unlikely) to stop taking them. The study is being run by a PhD student at the University of Southampton, and is funded by the National Institute for Health Research (NIHR) School for Primary Care Research (SPCR).

We are writing to you to remind you that there is still time to take part in the study, should you wish to. If you no longer have the paper questionnaire but would still like to take part, then please contact Rachel Ryves (the researcher) using the contact details below, to request a copy. If you would like to complete the questionnaire online, please go to: <https://www.isurvey.soton.ac.uk/24432> and log in using the password: APPLAUD1718

Your Patient ID number is: <insert allocated ID number>

If you have any further questions or would like to discuss the study in more detail, please contact the researcher using the details below:

Researcher: Rachel Ryves
Email: applaud@soton.ac.uk
Study office phone: 02380 591755
Study mobile phone: 07379523467

Your participation in the study is purely voluntary and you may decide not to take part without affecting your care in any way. **Please note, your contact details have not been shared with the researcher, the practice has contacted you on their behalf.**

Thank you very much for taking the time to read this letter.

Yours sincerely

Dr <insert GP name>

APPLAUD Follow-up letter v1 08.05.2018

Appendix O Notes Review Proforma



The APPLAUD Study: Notes Review

Name of Researcher: Rachel Dewar-Haggart

Participant ID Number:

Please record all prescribed **ANTIDEPRESSANTS/MENTAL HEALTH MEDICATION** during the 6-month timeframe in the boxes below (if dose has changed please list as a separate medication)

N.B – Please check the 6-month timeframe for this patient on the Participant Information for Notes Review document.

	Name of prescription	Dosage (mgs.)	Date Prescribed	If repeat, how requested?
1				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>
2				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>
3				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>
4				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>
5				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>
6				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>
7				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>
8				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>

9				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>
10				During appointment <input type="checkbox"/> Through reception <input type="checkbox"/> Online <input type="checkbox"/>

Please give details of any of the following services that have been accessed by the participant during the 6-month timeframe.

PLEASE ONLY INCLUDE APPOINTMENTS THAT CONCERNED THE PATIENT'S **MENTAL HEALTH CARE.**

Service	Accessed?	No. of contacts in 6 months	Date(s) of access
General Practitioner (face to face)	Yes <input type="checkbox"/> No <input type="checkbox"/>		
General Practitioner (telephone)	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Out of hours contact (GP or deputy)	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Out of hours contact (Nurse)	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Practice Nurse (at the GP clinic)	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Other health professional involved with patients' mental health care (e.g. psychiatrist, community mental health worker)	Yes <input type="checkbox"/> No <input type="checkbox"/>		

If there is any other information or comments you have about the patient that you feel may be relevant to the study, please write them in the box below:

Please return the completed form to Rachel Dewar-Haggart (applaud@soton.ac.uk)

Appendix P APPLAUD qualitative study documents

P.1 Participant information leaflet



Participant Information Sheet [v.3]

Study Title: Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (APPLAUD): A qualitative interview study

Researcher: Rachel Dewar-Haggart

ERGO number: 25136

IRAS number: 222680

Please read this information carefully before deciding whether to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

My name is Rachel Dewar-Haggart and this study forms part of my PhD in Primary Care, funded by the National Institute for Health Research (NIHR) School for Primary Care Research (SPCR). The aim of this study is to get peoples' views and opinions on their management of long-term depression, anxiety, or low mood, and about your beliefs about taking antidepressants. This study is funded by the NIHR SPCR, and is sponsored by the University of Southampton.

Why have I been chosen?

You previously took part in the APPLAUD Questionnaire study and indicated that you would be willing to be contacted to ask if you might be prepared to take part in an interview.

What will happen to me if I take part?

If you decide to take part, you will be asked to take part in an interview with the researcher. The interview will ask you about your understanding and views of managing long-term depression, anxiety, or low mood, and about your beliefs about taking antidepressants. The interview will take place at your home or GP practice, whichever you prefer. The interview will last around 90 minutes and will be audio recorded (with your consent). We may quote what you have said in reports or publications about the study, but any quotes would be anonymous. The researcher will transcribe the interviews, or they will be transcribed by a transcribing service used by the University of Southampton, which has a contract with the University.

Are there any benefits in my taking part?

It is unlikely that you will get any personal benefit by taking part in this study. However, your involvement in the study will give us a greater understanding of how people manage their long-term depression, anxiety, or low mood. The findings may help improve how long-term depression, anxiety, or low mood is managed in primary care.

What are the possible disadvantages and risks of taking part?

There should be no disadvantages in taking part in the study. However, some questions in the interview may be sensitive or difficult to answer. You are not under any obligation to answer any of these questions and you can stop the interview at any time.

If you are concerned about your depression or treatment, it is advisable to speak to your doctor as soon as possible.

Will my participation be confidential?

Yes. If you agree to take part in the study, your audio recording and transcript will be assigned a unique Participant ID number that cannot identify you in any way.

Personal details will only be available to the researcher. Any personal details that you give will be stored away from any other information in a password-protected computer file, and paper documents will be stored in a locked filing cabinet. These details will not be removed from the study office and will be stored in line with the University of Southampton's policy procedures. No information such as names or addresses will ever be shared with any third party.

What will happen to the results of the research study?

We will use information from the study to write reports and to form part of the PhD thesis. This will not include any information that makes it possible for you to be identified. At the end of the study, we will send you a report of the results of the study for your information.

What happens if I change my mind?

Your participation in this study is voluntary. You can decide to stop taking part in the study at any time, without giving any reason why. Any information that you had given us up to this point will not be used in the study.

What happens if something goes wrong?

If you are concerned about the conduct of the study, then please contact Rachel Dewar-Haggart' Lead PhD Supervisor, Professor Tony Kendrick (a.r.kendrick@soton.ac.uk; 02380591790). You may also contact the Research Integrity & Governance Team at the University of Southampton (email rgoinfo@soton.ac.uk or telephone 02380595058).

Where can I get more information?

If you would like further information about the study, you can get in touch with Rachel Dewar-Haggart by calling 02380591755 / 07379523467, or emailing her at applaud@soton.ac.uk.

P.2 Consent form

Medicine

UNIVERSITY OF
Southampton

Study ID: 25136

IRAS Number: 222680

Participant Identification Number:

CONSENT FORM

Title of Project: Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (The APPLAUD Study): A nested qualitative interview study.

Name of Researcher: Rachel Dewar-Haggart

Please
initial box

1. I confirm that I have read the information sheet dated 06.07.2017 (version 3) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐
3. I understand that the information collected about me will be used to support other ethically approved research in the future, and may be shared anonymously with other researchers. ☐
4. I agree to the interview being audio recorded and transcribed. ☐
5. I understand that any quotes I give during the interview may be used in research publications in peer-reviewed journals. I understand that these quotes will be anonymised. ☐
6. I understand that relevant sections of my medical notes and data collected during the study may be looked at by individuals from University of Southampton, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. ☐
7. I agree to take part in the above study. ☐

Name of Participant

Date

Signature

Name of Person taking consent

Date

Signature

The_APPLAUD_Study_Qualitative_Interview_Consent_Form v.3 06.07.2017

P.3 Topic guide

Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression (APPLAUD): A qualitative interview study.

Below is a list of topics/questions to be discussed in this study. The qualitative work will remain flexible with respect to participants' agendas but we will cover the broad topics/questions noted. It is common in qualitative work to iteratively develop topics and questions as new ideas emerge from early data collection. Therefore, we may add new topics as the interviews progress and data collection continues. However, the key topics of the patient's experiences and views of long-term depression management and long-term antidepressant use will remain the same. If participants prefer a different term to depression, such as low mood or anxiety, then that preferred term will be used throughout.

Introduction

- Re-introduce self and purpose of interview
- Check with participant:
 - that they are still willing to be interviewed, and for the interview to be recorded
 - remind them it will take up to approximately 60-90 minutes
 - that they are comfortable and in a quiet suitable place where they will not be disturbed
- Remind participant that:
 - their responses will be kept confidential, and quotes used in the results will not identify them as an individual;
 - they can change their mind about taking part in the study and stop the interview at any point.
- Remind participant that the study is to ask them about their experiences and views of the management of long-term depression/low mood/anxiety in primary care, and their beliefs about long-term antidepressant use. Remind the participant that there are no right or wrong answers.
- Ask if the participant has any questions.
- Start recording.

Interview Questions

SECTION 1: Causes and understanding of long-term depression

- a. Can you tell me a little about why you were prescribed antidepressants?
- b. What do you think long-term depression/low mood/anxiety is?
- c. What do you think causes long-term depression/low mood/anxiety?
Prompt: Inviting participants to share understanding of long-term depression (i.e. whether they view it as biological/psychological/social factors)

SECTION 2: Process of antidepressant use and continuation, role of GP and significant others

- a. How did you come to start taking antidepressants?
- b. Can you tell me about the consultation in which your GP first prescribed your antidepressants?

- c. What did your GP tell you when you started taking antidepressants?
Prompts: What did the GP say about how they worked? What did your GP tell you about how long you would need to take them?
- d. How did you decide to stay on antidepressants?
Prompts: how long had you been on them when that decision was made? What discussion did you have with your GP?
- e. What happens when you need another prescription for antidepressants?
Prompt: Do you request a repeat prescription/have to have a review with your GP? Is that face to face, or by telephone?
- f. How often do you go to talk about your antidepressant treatment with your GP?
Prompt: When was your treatment last reviewed?
- g. What has happened when you have discussed your antidepressant use during appointments with your GP?
Prompt: What does your GP tell you about staying on/discontinuing antidepressants?
- h. What/how do you think your GP thinks about your antidepressant use?
- i. What role do you think GPs play in long-term depression/low mood/anxiety management?
- j. What do people close to you think about you taking antidepressants?
Prompt: Consider friends/family/social network

SECTION 3: Attitudes towards antidepressant use

- a. What role do you think antidepressants play in the management of your depression/low mood/anxiety?
- b. What do you think are the benefits of taking antidepressants?
- c. What do you think are the drawbacks of being on antidepressants?

SECTION 4: Beliefs about antidepressants and alternative management

- a. Can you tell me your reasons for continuing your antidepressant treatment?
- b. What are your plans regarding antidepressant treatment for your long-term depression/low mood/anxiety?
- c. What do you think would happen if you stopped taking antidepressants?
Prompt: What has happened when you have stopped taking antidepressants?
- d. What do you think the long-term effects of taking antidepressants are?
Prompt: Asking participant about understanding/awareness of any long-term effects of antidepressants
- e. What other strategies do you use to manage your long-term depression/low mood/anxiety?

- f. How do you think these strategies help manage your long-term depression/low mood/anxiety?

Prompt: Ask about advantages/drawbacks

- g. What other strategies are you aware of to manage long-term depression/low mood/anxiety?

Prompt: How would you feel using these strategies/why do you not use these strategies?

SECTION 6: Closing comments

- a. Please could you tell me about anything about your experience of your long-term depression/low mood/anxiety management that you feel would be important for us to know?

Debrief

- Tell patient that the tape recorder is now switched off
- Thank patient for taking part in the interview
- Remind patient that the aim of the interview was to ask them about their experiences and views of long-term depression/low mood/anxiety management and long-term antidepressant use in primary care.
- Ask if the patient has any questions about the study.
- Thank patient again for taking part in the interview.

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